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**IMPROVING THE DEVELOPMENT AND IMPLEMENTATION  
OF MODERN TOURISM INFORMATION AND  
COMMUNICATIONS TECHNOLOGIES IN THE CARIBBEAN**

**A PROJECT REPORT SUBMITTED TO  
MIDDLESEX UNIVERSITY  
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR  
THE DEGREE OF  
DOCTOR OF PROFESSIONAL STUDIES**

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**JULY 2008**

## **PROJECT REPORT**

**Abstract of a Project Report submitted in fulfilment of the requirements for the  
Degree of Doctor of Professional Studies**

# **Improving the Development and Implementation of Modern Tourism Information and Communications Technologies in the Caribbean**

by

Paul Ridoutt

This research looks at the implementation of information technologies (IT) into the tourism industry of seven developing countries in the Caribbean. The success of implementing IT solutions within aid-funded tourism development projects remains an issue for these countries, and the preliminary research undertaken has shown that the related literature is limited.

The research question is a real issue that prevents the successful achievement of project outcomes.. Where literature does exist, it mainly deals with the procedures and logistics of the project management rather than the human interaction responsible for its delivery. This is the focus of this DProf project and, because of the nature of the problem, phenomenological investigation is that upon which the philosophical approach is based.

Tourism is now one of the largest world industries. For many developing countries tourism is the only source of foreign exchange and jobs, and its contribution is vital to their national economies. Many of these countries do not have the financial or technical expertise to keep pace with advances in the use of technology in the tourism industry, and are struggling to keep up. (United Nations World Tourism Organisation (UNWTO) 2006) Particularly at risk are the small island states in the more remote areas of the world; a case in point is the Caribbean.

To these developing tourism destinations, the role of technology is becoming more influential, and technological initiatives are sometimes included as part of a tourism development 'aid package' by many donors including the European Union (EU), World Bank and UNWTO. The outcomes of such aid projects have often dictated the development pace of individual countries' tourism industry. Sometimes the outcomes reflect the political and economic priorities and social requirements of the aid donor itself, and may not always meet the prime needs of the beneficiary country as a first requirement. Initial research shows that attempts to develop and implement IT into the developing countries of the Caribbean, as part of a regional aid funded tourism development project, have not been a total success.

The reasons for failure may vary from country to country, but this project shows there is a common thread running through the different projects; the human issues. These range from senior management's understanding of the importance of technology, through the development, management and allocation of sufficient resources to a national tourism destination, to the use of technology and the empowerment of management and staff to implement the IT strategies.

The increasingly extensive use of dynamic IT in global tourism, by a labour force experienced in creative technology, has seen the introduction of new and dynamic technologies and associated operational system and management requirements. These require developing countries to cope with changing skills and organisational requirements that some cannot accomplish. As a result, they must change and adjust to new staff and skills, or the IT Implementation fails, from a technological point of view.

Respondents find that managing this dynamic change, even with the benefit of organisational systems and new staff, is a challenging task. From my fieldwork I found that some Directors of Tourism and senior managers feel pressured to choose between two managerial dimensions – rationalism and humanism. Collins and Porras (1994) propose that this is a trap for managers, as they may succumb to the 'tyranny of the *or* – managers can be either rationalistic *or* humanistic. However, I found that experienced senior managers harness what Collins and Porras call the 'genius of the *and*'. That is, they are not trapped by this polarity and have both mastered and utilised systems and married this with building a new organisation, retaining and training their key experienced staff to work with new technologies, recruiting new skills as the situation demands.

The paradox for the tourism industry is that, with experienced directors of tourism and senior managers being few in number and difficult to recruit, losing them risks damaging the

organisational knowledge base and social framework. Ultimately, this damage influences the way in which new technologies are assimilated into the organisation, and how resources, both financial and human, are managed or mismanaged.

The key practical message for directors of tourism and senior managers involved in today's rapidly changing, technology-driven, tourism marketplace is this. It is essential for them to be more aware of the need to develop an organisation and skill base with the resources to assimilate and use the new technology tools. Failure to recognise and practically support this vision will restrict the benefits of implementing tourism technologies, the achievement of business objectives, and the organisation's chance of competing in the global tourism marketplace.

As well as this project report, the full EU-funded CRSTDP Management Information System (MIS) Project Report (Phase 1 – Development and Phase 2 – Implementation) are submitted in partial fulfilment of the requirement of Doctor of Professional Studies

### **Key words**

Tourism IT, developing countries, Caribbean, aid-funded projects, phenomenological investigation

## **Glossary of terms and acronyms**

CARIFORUM	Caribbean Forum of African, Caribbean and Pacific States
CRM	Customer Relationship Management
CRSTDP	Caribbean Regional Sustainable Tourism Development Project
CTO	Caribbean Tourism Organisation
DFID	Department for International Development (UK)
DOT	Director of Tourism
EC	European Commission
EDF	European Development Fund
EOI	Expression of Interest
EU	European Union
GDS	Global Distribution System
ICT	Information and Communication Technology
IT	Information Technology
MIS	Management Information System
NTO	National Tourist Organisation
PMBOK	Project Management Institute (2004) A Guide to the Project Management Body of Knowledge
RFP	Request for a Proposal
SPTO	South Pacific Tourism Organisation
TOR	Terms of Reference
UNWTO	United Nations World Tourism Organisation
WB	World Bank

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## **CHAPTER 1 - INTRODUCTION**

### **1.1 INTRODUCTION**

Tourism is now one of the largest world industries (United Nations World Tourism Organisation 2006) and there is a growing body of literature dealing with tourism and its effect on the economies, environments and societies of developing countries. For many of these countries, tourism is the only source of foreign exchange and jobs, and its contribution is vital to their national economies. It is an industry of rapid change and development, and both private and public sector tourism organisations are adopting new methodologies, technologies and tourism development practices at an ever-increasing pace in order to gain competitive advantage. Globalisation of the market is taking place at a rapid rate. Technology is breaking down the established trading structure in the source markets; Internet e-commerce will continue to affect the way tourism will be marketed. Many of these developing countries do not have the financial or technical expertise to keep pace with these changes, and are struggling to keep up. Particularly at risk are the small island states in the more remote areas of the world (Commonwealth Secretariat 1997).

### **1.2 THE IMPORTANCE OF MODERN TECHNOLOGIES IN TOURISM**

Sweeping changes in the worldwide travel and tourism industry in recent years have left many national tourism organisations (NTOs) trying to adapt their missions, marketing and organisations to meet new demands. Nowhere is this more evident than in the use of technology to market and sell destinations, as well as to gather research-based market intelligence. By far the biggest impact of technology will be on marketing, distribution and sales (Poon 1993).

Modern tourism destination marketing and management technology is expensive and time consuming to implement. It also requires high levels of computer literacy and a technology infrastructure and telecommunications to be in place to facilitate a successful outcome. Computers and communications technologies have become indispensable to the industry. (Poon 1993: 41) This research will focus on seven developing countries of the Caribbean that, because of their size, structure and distance from major markets, “*will rely heavily on travel Global Distribution Systems (GDSs) to promote tourism*” (Milne 1996).

For the Caribbean, the use of technology to market and promote tourism products will continue to be important and become vital as dependence on the ‘tourism dollar’ grows.

However, whilst it is these developing destinations that need the new technologies to compete in the world tourism market, many lack the finance, technical infrastructure and expertise to develop and implement the modern tourism destination marketing and management information systems that have now become the accepted tourism product marketing and sales tools. *“Information is power and this could well lead to a struggle for control over the Internet and its networks in the coming years” (Mowforth and Munt 1998: 29.)*

Arising from this identified need, a major three-year tourism technology project was identified to be implemented by the European Development Fund (EDF8) as part of the CRSTDP) 2005–2008, with the CTO as the executing agency.

### **1.3 BACKGROUND AND OBJECTIVES TO THE EU PROJECT**

#### **1.3.1 Background**

The CRSTDP is part of EDF 8, drawing on the experience of earlier programmes funded under the 6<sup>th</sup> and 7<sup>th</sup> EDF which called for more private sector involvement, a clear focus and less complex implementation procedures. Therefore the primary focus of the CRSTDP is to contribute to make the tourism sector of the Caribbean, and in particular the CARIFORUM countries (the Caribbean forum of African, Caribbean and Pacific States that comprise the 15 Caribbean countries that benefit from EU funding) benefiting directly from this aid to make them more competitive and sustainable and to contribute to the economic growth and poverty reduction in the Caribbean. The seven countries that are the subject of this research are CARIFORUM countries and are thus included in this CRSTDP IT EU initiative. An important stated focus for the main beneficiaries of the CRSTDP programme includes the establishment of research and information technologies and capabilities.

The Caribbean Tourism Organisation (CTO) and its predecessor organisations have for more than thirty years been the primary regional Caribbean tourism organisation, with responsibility for tourism marketing, research and information management and dissemination. With its current membership of 32 Dutch, English, French and Spanish-speaking member countries and its many Caribbean and overseas allied, associate and chapter members, CTO has become the most reliable entity for tourism information collection, management and dissemination. In addition to its research activities and publications, CTO has introduced a number of Information Technology (IT) initiatives during the last ten years to enhance and complement the efforts of member countries. These include two management

information systems (MIS) – namely MicroStats and MIST2000, and a family of Internet sites for marketing, B2B and Intranet purposes.

Tourism is perhaps one of the biggest and most competitive industries in the world and is extremely dynamic and unpredictable. Technology has shaped the industry and its business relationships over the past twenty years from the inception of the computerised reservations and destination management systems to the emergence and commercialisation of the Internet technologies. It is the commercialisation of the Internet that has revolutionised the structures and nature of international tourism. This means that, in order to survive and prosper, Caribbean countries have to be at the cutting edge of technology and have ready access to destination management and information systems to respond to the many challenges that have confronted and will continue to confront the region's public and private sector tourism policy and decision makers. The effective promotion and management of the Caribbean tourism industry demands that both public and private sector planners, operators and decision makers have access to the latest tourism technologies and management information in order to plan, manage and promote destinations and tourism products, and to have the appropriate tools and expertise available to them to make full use of the information.

Given this requirement, together with CTO's objectives vis-à-vis the provision of technical assistance, research and management information plus marketing and promotional activities to its member countries, there was a need for increasing CTO and its member countries' technology capabilities to meet the growing demands in this very dynamic, technology-driven international tourism environment.

In order to achieve the objectives for this IT component of the CRSTDP, the Terms of Reference for this EU Project were to develop a Regional Tourism MIS and to implement it into those CARIFORUM countries requesting it. Given the timeframes, this was initially estimated to be a maximum of five countries.

The EU-funding programme had five major objectives relevant to this IT programme component, all linked to improving the Caribbean's tourism industries and aimed at helping them become more competitive, sustainable and leading to more economic stability. One of the tools to achieve this was implementing a major tourism technology into the region, the Regional MIS as described in the next section (1.3.2).

The five major objectives of the CRSTDP were:

1. To make Caribbean countries more competitive and sustainable
2. Contribute to economic growth and poverty reduction in the Caribbean
3. To establish a regional MIS to improve information technologies and capabilities
4. To improve capacity of CTO to provide more technical assistance, research and management information to its members
5. To increase CTO and its member countries' technology capabilities to meet the growing demands in this increasingly dynamic, technology-driven international tourism environment.

Underpinning the entire CRSTDP is to aim for sustainability for all components of the EU programme, including the MIS.

### **1.3.2 Summary of the characteristics of the MIS developed and implemented as part of the EU-funded project**

The MIS System developed as part of the EU-funded Caribbean Sustainable Tourism Development Programme (2005 - 2008), managed by CARIFORUM and executed by CTO, is a Management Information System for Tourism (CTOMIST2006) and is a specifically-designed technology tool to collect, store and process a wide range of tourism data. It is an essential technology tool for national and regional tourism development, research, planning, marketing and destination management.

To keep pace with the need for high-quality management and marketing information, CTO MIST was designed to:

- improve the ability of Caribbean destinations to manage and develop a sustainable tourism product
- enhance their ability to respond to the changing market environment in which they now operate
- strengthen their information infrastructure and enhance their management capability.

CTOMIST is a multi-user system in both the computer and operational sense. It has been designed so that different tourism interests can have access via password security to the full range of data and reports: national and regional tourism organisations, central statistics,

immigration, airport and seaport management, central banks, ministries of finance, tourism operators, licensing authorities and so on.

NTOs are in a unique position to collect, add value and disseminate a wide range of important tourism-related information to consumers, tourism partners in the source markets, business persons and potential investors, as well as to their own government colleagues and private sector partners.

CTOMIST facilitates a research-based and scientific management approach to destination development, planning and marketing. It sets standards for national, regional and international management and marketing information, and provides the means to share tourism information and benchmark tourism products. Because of the customisation, the operating characteristics, and security levels, CTOMIST can put specific up-to-date information where and when it is required – on the PC or laptop of the user – whether that user inputs data or is an information officer at the airport, a tourism planner at a ministry, a marketing manager in an overseas office, or a product development or destination management officer.

Developed using Microsoft SQL Server, MIST operates in a client server environment and collects data from immigration arrival/departure cards and other sources. It processes and produces a rich array of tourism information reports via over a hundred standard reports. There is a Report Builder function to facilitate customised *ad hoc* reporting and the OLAP Cube to take data mining to a new level. MIST is continually enhanced and maintained via CTO and a User Group Forum has now been introduced via the CTO website, [www.onecaribbean.org](http://www.onecaribbean.org).

MIST can be provided with a number of add-ons, including:

- customer relationship management (CRM)
- image scanning
- a simple survey component.

MIST is important to everyone involved in tourism marketing, planning, development and management. It is a real world tool and an essential powerful, dynamic and creative technology. Following two years of development and testing (through 2005-2007), by the end of 2008 MIST was already installed and working in 12 CTO/CARIFORUM member country sites and is now available to all CTO member countries.

The seven case study countries at the commencement of the project were very different in terms of their capacity to take on board new technologies, their tourism structures and reporting needs, and their organisational infrastructure. The challenge, therefore, was to retain the core system developed during 2005-2007 but to customise the technology, installation and implementation configuration and training to meet the individual countries' needs.

The case study country situation identified in outline during the initial research and at project commencement is set out in the table below. The customisation required for each country was governed by a number of factors including volume and tourist profiles, technology infrastructure, staff and management capacity, operating criteria such as airports, seaports, data entry and system management requirements, and specialist reporting requirements.

The required customisation comprised:

- technical changes to the programmes in order to cope with collecting additional or non-standard data, changes to the standard reports to meet the individual country reporting requirements, together with changes to the import and export functions to allow data transfer both direct or via the Internet
- restructuring and customisation of the standard training and implementation programmes to meet the individual human resource needs of each country
- any additional features such as CRM, scanning, surveys, and so on.



**Table of Case Study Country MIS Implementation Profile**

<b>CASE STUDY COUNTRY</b>	<b>COUNTRY PROFILE (excludes cruise and yacht tourism volumes)</b>
Antigua	Single island destination – largely traditional (vacation) stay over tourist profile – approx. 260,000* pa - limited IT resources, infrastructure, knowledge and capacity – 4-5 data entry staff at one airport – MIS Management and Reporting at one location (Ministry of Tourism) – standard data collection and reporting requirements – good system management and reporting skills – difficult historical experiences with previous technologies – previous experienced IT/ MIS staff no longer in situ.
Dominica	Single island destination - mixed stay over tourist profile (vacation/VFR/ Business) approx. 100,000* pa - improved IT resources, infrastructure, knowledge and capacity with permanent IT staff – 5-7 data entry staff at two airports and two tourism offices – MIS Management and Reporting at two locations (National Tourism Office and National Statistics Office) – standard data collection and reporting requirements – due to staff changes, inexperienced system management – some historical experiences with previous technologies – previous experienced IT/MIS staff no longer in situ.
Grenada	Multi island destination – largely traditional stay over (vacation) tourist profile approx. 130,00* pa - Good IT resources, infrastructure, knowledge and capacity with permanent IT staff – 4-6 data entry staff at two airports on two islands – MIS Management and Reporting at one location (National Tourism Office) – customised data collection and reporting requirements – experienced system management – some sound historical experiences with previous technologies.
St Lucia	Single island destination – traditional stay over (vacation) tourist profile approx. 300,000* pa - improved IT resources, infrastructure, knowledge and capacity – 4-6 data entry staff at two airports – MIS management at one location with reporting at multi locations – standard data collection and reporting requirements – good system management and reporting skills – some difficult historical experiences with previous technologies.
St Kitts and Nevis	Two island destination - mixed stay over tourist profile (vacation/ VFR/ business) approx 124,000* pa – no IT resources, infrastructure, lack of knowledge and capacity – two airports/two islands – because of difficult historical experiences with previous technologies no clear structure for data entry, MIS Management and Reporting – customised data collection and reporting requirements – inadequate system management and reporting skills.
St Vincent and the Grenadines	St Vincent and the Grenadines – multi island/airport/seaport destination – mixed stay over tourist profile (vacation/VFR/Business/yachts) – 90,000* pa - no IT resources, infrastructure, knowledge and capacity – 4 data entry staff at one office (Ministry of Tourism) – MIS management and reporting at one location (Ministry of Tourism) – customised data collection and reporting requirements – inexperienced system management and reporting skills – difficult historical experiences with previous technologies – previous experienced staff no longer in situ.
Trinidad and Tobago	Two island destination – mixed stay over tourist profile (vacation/ VFR/ Business) approx. 450,000* pa - good IT resources, infrastructure, knowledge and capacity – 8 data entry staff at one location (National Statistics Office) and MIS management with reporting at one location (National Statistics Office) – very customised data collection and reporting requirements – good system management and reporting skills – historical experiences with previous technologies.

\* CTO Tourism Statistics for Stop-Over Tourists, 2007

#### **1.4 BACKGROUND TO THE DPROF PROJECT**

This DProf research project is an integral part of this current EU-funded CRSTDP IT (MIS) Project and will focus on the project lifecycle (2005–2008) of the IT component of the CRSTDP in developing and implementing a modern tourism IT MIS in seven small, developing states in the Caribbean. The DProf Research Project fits within the terms of reference and timescales for the MIS project and is anticipated and planned to deliver actual benefits to the EU-funded project during its implementation.

Initial research shows that previous attempts to develop and implement a regional MIS into the developing countries of the Caribbean have not been a total success. This research focuses on the Caribbean countries of Dominica, St Lucia, Grenada, Trinidad and Tobago, Antigua, St Kitts and Nevis, and St Vincent and the Grenadines to establish and understand why this should be. This project will analyse the technologies, development and implementation, and evaluate the implementation methodology to identify the causes of failure and incorporate these findings into improving the processes and practices to develop and implement this new EU-funded (EDF 8) CRSTDP MIS.

The nature of the external links and collaboration for this project includes:

- Aid donors – selected from EU, World Bank, UNWTO and DFID.
- Beneficiaries – current and past public and private sector stakeholders and officers from National Tourist Offices (NTOs), Regional Tourist Offices, Ministries of Tourism, National Planning Offices, and associated private sector organisations hotel and travel associations and airline associations.

The limitations of the DProf Research Project are to fit within the terms of reference and timescales for the EU-funded MIS project under the CRSTDP (2005/8) that focuses on the development and implementation of a new MIS into the 15 Caribbean CARIFORUM countries. This includes the seven research countries that are the focus for this DProf Research Project, and the project duration is 2005–2008.

This DProf Project is directed on a tourism issue and engages tourism ministers, directors and tourism staff in its research and data gathering. However, the results from the study can be used in other IT environments in developing country situations.

As well as this DProf Project Report, the full EU-funded MIS Project Report (Phase 1 – Development and Phase 2 – Implementation) will also be submitted in partial fulfilment of the requirement of Doctor of Professional Studies.

## **1.5 AIMS AND OBJECTIVES OF THE DPROF RESEARCH PROJECT**

An analysis of the factors and influences that shaped the previous MIS initiative (1999–2002) and current tourism MIS project lifecycle and outcomes (2005–2008) in the seven research countries will be undertaken in order to determine the causes of failure. This will involve identifying and examining problems in previous projects and also examine the methodologies developed and used to overcome these identified shortcomings in the current MIS IT project.

The **outcomes** of this research are to identify and enhance the understanding of the key determinants that impact and influence IT projects in order to minimise risk of failure with respect to developing and implementing modern tourism IT in developing countries.

The **outcomes** are aimed at benefiting specifically:

- The implementation of the current EU-funded (EDF 8) CRSTDP IT Tourism MIS Project
- Organisations involved in developing and implementing tourism IT into developing countries - national tourism authorities, aid donors, consultants and private and public sector tourism operators, and software development companies
- The outcomes can also assist a similar group of beneficiaries involved in implementing IT into other private and public sectors in developing countries, that is, public service, finance, industry, and so on.

The **objectives** of the research are to:

- Examine and understand the influences and impacts of the methodologies used in developing countries on the selection, specification, focus, implementation and outcome of modern tourism technologies (IT)
- Determine and comprehend the effect of these influences on current project outcomes and evaluate their effect on expectations of the beneficiaries and anticipated outcomes stated, as per the IT project Terms of Reference (TOR)
- Identify and examine failures and develop methodologies to overcome, rectify or eliminate the identified failures, and publish guidelines in the form of *Guidelines to Best*

*Practice in Implementing Tourism Technologies in Developing Countries* as a synopsis of this Project Report for publication and distribution to aid donors and professional bodies, as appropriate

- Through this research project, contribute to the body of knowledge and literature dealing with this issue, to add a new dimension to existing literature on IT and tourism development in developing countries.

In particular, the research will be focussed on analysing the Caribbean EU-funded project of MIS implementations (1999/2001) in the seven research countries and the related activities of the following period (2001/2005) that continued the initial implementations. Also the research will be relating and checking these issues with the current EU-funded Caribbean MIS Project (2005/2008).

As well as the practical development and implementation of a major MIS, an output of this EU-funded IT project is a Final EU MIS Project Report that will detail the project work undertaken, together with any specific recommendations for the future. This document is to EU format and will be issued to the EU and CTO for acceptance and project completion (estimated at 70,000–100,000 words in total). In addition, there will be this Research Project Report to meet the aims and objectives of this DProf project, and specifically detail improved practices and processes to be used in the development and implementation of modern tourism IT in the future, together with a synopsis of this Project Report. This will act as a set of guidelines to best practice in implementing tourism technologies in developing countries, for publication and distribution to aid donors and professional bodies, as appropriate.

In summary, this DProf research will benefit the current EU funded (EDF 8) CRSTDP IT Tourism MIS Project (2005-2008) and assist in its aim to achieve sustainability. The research will also assist EU, other aid donors, CTO and national and regional public sector authorities of developing countries in understanding the key issues in developing and implementing modern technologies (especially tourism technologies) in developing countries. Furthermore, this research will also contribute to the literature and body of knowledge concerning the role and importance of tourism IT in the tourism development process.

## **1.6 THE RESEARCH THEME**

The research used a qualitative research methodology, namely phenomenology. Explicit research questions are not commonly found in phenomenology research, and therefore I have referred to this DProf research as a research theme. The research, however, needs to start from

some point of reference, which is often an open question related to the research theme, initially making it more conceptual than specific. Preparatory and ongoing research and discussions with directors of tourism and CTOs suggested that there is evidence that failure occurred with the last 1999/2001 implementation of a major MIS tourism technology in the National Tourism Office of each research country.

Because of the nature of the problem, the philosophical approach taken is based on phenomenological investigation. In this sense I investigated using in-depth critical participants in the project implementation process in seven countries. I also applied the multi-case method to seek commonalities and difference between the research groups. Whilst there is no specific research question, this research has a sound research base and sets out to find out what occurred and the reasons why. Based on this research, I identified the primary reasons and causes for the failures and developed an approach to mitigate their reoccurrence within the current EU-funded (EDF 8) CRSTDP IT Tourism MIS Project.

In developing an understanding of the processes at work that impact and shape outcomes with respect to implementing tourism technologies, I defined the key elements that contribute to future and offer these to the key stakeholders of this and other IT projects, that is EU and other aid donors, CTOs and the national and regional public sector authorities of developing countries.

## **1.7 PROJECT SUMMARY**

This research identified that many Caribbean NTOs are trying to adapt their missions, marketing and organisations to meet new demands. Nowhere is this more evident than in the use of technology to market and sell their destinations, as well as to gather market research-based market intelligence. By far the most important area of impact of technology will be on the areas of marketing, distribution and sales (Poon 1993).

It is also accepted by this research that modern tourism destination marketing and management technology is expensive and requires reasonably high levels of computer literacy and technology skills in order to secure a successful outcome. Computers and communications technologies have become indispensable to the industry (Poon 1993: 41) For the Caribbean, the use of technology to market and promote their tourism products has become more important as the region has been affected by changes in its major market – North America. Specifically, it has been affected by 9/11, US passport legislation changes and

increasing oil prices and financial downturns in the US and Europe, as well the emergence and competition from new destinations in the Indian Ocean and South East Asia.

Although the research shows that the Caribbean destinations understand the need for the new technologies to compete in the world tourism market, many lack the finance, technical infrastructure and expertise to develop and implement modern destination marketing and MIS themselves.

This is nowhere more apparent than in the use of tourism technologies in the seven research countries where, for at least six of them, tourism revenue is now probably the most important, and in some cases the only, major source of revenue. For these countries, the cost of acquisition is almost prohibitive and they have relied on aid from donors such as the European Union (EU).

Arising from this need, a major three-year technology project (2005–2008) was identified to be implemented as part of the European Development Fund (EDF8) and as part of the CRSTDP, with the CTO as the executing agency. An important component of this CRSTDP is the development and implementation of a tourism technology MIS for tourism. Facilitated by my role as the Project Manager on this project, my DProf research project focuses on the project lifecycle of this current EU funded MIS project. It analysed the technologies and evaluated the implementation methodology to identify the causes of failure, and then set out to incorporate these findings into improving the processes and practices to develop and implement this new MIS.

The findings of this research add to our understanding of the importance of the human issues as well as the financial and technical issues that are vital to the implementation of tourism technologies in developing countries. The research also adds to the understanding and planning requirements of the Project Managements functions. I argue that benefits would accrue to successful implementation of technologies if directors of tourism and senior managers in NTOs were more attuned to the importance of the human issues that are an essential part of implementing tourism technologies. In addition, I argue that those responsible for implementing the technologies should be more attuned to the needs of the organisations, and recognise their own shortcomings to meet these demands.

Whilst levels of understanding are often an intangible commodity, the effective development of IT has very tangible effects. These effects potentially include improved business outcomes

such as retention of experience and skills, staff turnover and productivity, and winning more business in the marketplace.

While this research is based in the Caribbean, the findings can be generalised to other geographical areas and developing countries where tourist organisations are taking on board new technologies.

## **1.8 OVERVIEW OF PROJECT REPORT**

This Project Report contains five chapters and a number of tables and appendices. This, the first chapter, sets out to explain the significance of the research and the context in which the research was explored.

Chapter 2, Review of the Literature and Past Research is a review of the literature pertaining to this research subject.

Chapter 3, The Research Process, is an account of the DProf research process (contextual, theoretical and practical) including research methodologies used, research population, data collection and analysis.

Chapter 4, Results, is an appraisal of the DProf project outcomes and performance. This chapter is the key chapter and will examine assumptions, ideas, evidence and arguments and so on presented as findings and conclusions from the research with a focus on the significant areas. It will review the research questions, findings and assumptions for their validity and whether the claims are measurable. The appraisal will scrutinise the evidence and consider whether the claims made in respect to the evidence are too broad, or if they are warranted. The objective of the critical commentary in this case is to question what the performance outcomes are telling us and identify anything negative or any weaknesses. Whilst most claims and arguments have some weakness that does not necessarily mean that the study or work has no merit, on occasion it does indicate this.

Chapter 5, Conclusions of the Study, is an examination of how the DProf study met the objectives for the research and its usefulness.

Chapter 6 comprises the Tables, Appendices and References.

## CHAPTER 2 - REVIEW OF LITERATURE AND PAST RESEARCH

### 2.1 THE STRUCTURE OF INTERNATIONAL TOURISM AND THE DEVELOPING WORLD

*“The Third World tourism industry has grown rapidly, but has also encountered many problems common to other outward-oriented development strategies, including: excessive foreign dependency, the creation of separate enclaves, the reinforcement of socioeconomic and spatial inequalities, environmental destruction, and rising cultural alienation.”*

(Brohman 1996)

Because of their complex political and economic links to previous and current ‘colonial’ activities, the major outbound tourist generating countries tend to focus outbound tourists, investment, aid and transport connections into specific developing world destinations, sometimes referred to as the Third World. For example, North America and Europe generate up to 80 per cent of the tourists arriving into the Caribbean (Caribbean Tourism Organisation 2006). Australia, New Zealand and Japan generate most of the tourists arriving into the South Pacific (South Pacific Tourist Organisation 2006), whilst most of Africa’s tourism comes from Europe (Lea 1988: 25/26). Thus, Third World countries become dependent on these specific metropolitan countries for the major volume of their incoming tourists (Britton 1979).

*“Host countries are told by tour operators and governments, that visitors from developed countries require certain types of tourist infrastructure in terms of accommodation and facilities, that is resort hotels, golf courses, health services and so on, and also have political and social expectations (and now environmental expectations) of the country to be visited.”*

(Richter 1989; Lea 1988)

However, as noted by the World Tourism Organisation (UNWTO 2005), it is still difficult for many developing countries to reap benefits from tourism. This is because of a lack of transport and accommodation facilities to meet the requirements of international tourists. Also, many host countries lack the leisure and physical infrastructures expected by tourists, and therefore rely on the finance, design, management, skills and technology of the major tourist generating countries themselves to provide it. For most, tourism is a sector of interest for the future, but also one that is difficult to develop because of a lack of suitable means and tools (UNWTO 2005).



*“The tourist infrastructure provides the mass tourist with the ecological bubble of his accustomed environment – such bubbles contain airport roads, water supply, sewerage, electricity, telephones – all these projects are expensive – funded partially by aid and expensive borrowing.”*

Pattullo 1996: 30/32)

Moreover, many developing countries do not have the necessary training facilities to meet the needs of tourism, as it is a service sector demanding large numbers of qualified staff (UNWTO 2005).

An information-intensive sector, tourism has significantly benefited from Information and Communications Technologies (ICT). These are a key driver for developing countries and offer the opportunity for tourism enterprises to enter the markets and interact directly with consumers and foreign tourism distributors, leading to a process of disintermediation (UNCTAD 2005).

Polarisation occurs between foreign and local elite and capitalist enterprises and thus creates dependence on the tourist-generating country, not only for tourists and finance but also for management and technical skills (Mowforth and Munt 1998: 45/46). This allows the metropolitan centres to influence Third World countries, both economically and politically, using tourism as the means (Richter 1989). Clancy, in his paper *Tourism and Development Evidence from Mexico*, refers to state tourism agencies and their overarching need to attract foreign tourists, illustrating how they became dependent on foreign-owned tourism enterprises from the outset (Clancy 1999).

The latest and one of the more powerful influences on the historical travel and tourism trading structures is technology (Hall 1994: 4). In particular, this is the influence of the airline CRS (Computer Reservations Systems) technology, usually referred to as the GDS (Global Distribution Systems), together with the tour operator and travel agency reservation and distribution systems. The latter feature their own products and services and also link to the airline CRS. These linkages between airline, tour operator and technology are forming a global computer system network that now carries information and product to the travel agencies and to the consumer worldwide (Poon 1993).

*“For many SIDS (Small Island Developing States) remoteness, smallness and isolation can be overcome and the development of modern communications*

*capacities could become the engine of growth, development, and diversification.”*

(Commonwealth Secretariat 1997: 8)

Because of the high costs of technology development and the technical skills required, much of the ownership and development of these major tourism technologies lies within the metropolitan tourist generating centres. Within these centres they are predominantly owned by the major airlines, travel agents and tour operators, although recently venture capital organisations have been buying into this market. In 2006, Blackstone Group purchased Cendant, who own several major tourism/travel CRS. Some IT development companies themselves have been developing and operating Internet-based tourism technologies for commercial gain. Examples of this type of technology ownership are Sabre and Travelocity (formerly owned by American Airlines), Galileo (Blackstone Group/Cendant, Avis and Budget Days Inn Hotels), and Amadeus (British Airways, Qantas, Lufthansa, Air France, and Iberia). These are some of the leading owners and developers of global technologies who therefore have great global influence over tourist product distribution and sales, both in the developed and the developing worlds.

Thus we can see that the metropolitan based tourism technologies:

- Are an important key link in developing tourism markets for developing countries
- Control and own the key factors in the development of tourist markets that is marketing and communications, technology distribution, transport and accommodation, distribution and sales
- Are the owners of key global marketing and distribution systems. This is further polarised by the vertical integration of a number of key tourism services, airlines, agencies, accommodation and technology being under the same ownership, coupled with the cross-ownership between some principals such as international airlines (One World) and by huge global tour operators TUI (Germany).

It is therefore these metropolitan enterprises that exercise a vital control over tourism and financial flows to developing countries by exerting their influence through their ownership of the key means of marketing and distribution; that is, their own technologies, as described by Hall:

*“Therefore it can be seen that a Third World country becomes enmeshed and dependent on a global system of ownership which controls the generation of tourism which it can influence and direct to its own chosen destinations. Control over the development process moves from the people who are most affected by the development, the host community, to the tourist generating regions.”*

(Hall 1994: 123)

Neblett and Green (2000) state that:

*“Multinational corporations, through superior entrepreneurial skills, established networks and advanced technological facilities, dominate and control much of the Third World tourism industry. This dominance has been identified as a strong factor which undermines the development potential of peripheral developing tourism regions.”*

This view is also reinforced by Burns and Holden (1995):

*“This reliance upon the developed world for capital investment and markets is the underpinning for what development economists and others referred to as the Dependency Theory.”*

Thus, by means of these influences, dependencies are created and vulnerabilities exposed as the developing world, including the SIDS of the Caribbean and South Pacific, have become enmeshed in the global tourism network dominated by the major metropolitan countries. It can be argued that aid-funded tourism development consultancy projects can themselves be regarded as yet another opportunity to influence a developing country's tourism development strategy and thus increase or create more dependencies.

Milne and Ateljevic (2001) point out that Dependency Theory is accused of being obsessed with the global level and world systems (Corbridge 1986), and that the internal influences are ignored (Storper 1990; Lipietz 1993; Peet and Hartwick 1999). They also point out that there is a failure at both global and local level to acknowledge the factor of internal local influence that can exert control over its own destiny.

Thus, the possible influences creating dependency identified from this initial research are the aid donors (Pattullo 1996: 5), metropolitan enterprises and governments (Mowforth and Munt 1998: 34/35) and internal local influences, that is governments and so on (Milne and Ateljevic 2001). From the above we can see that the developing countries (including the Caribbean) are highly dependent on the developed countries. They are dependent not only for tourists to visit the Caribbean, but also for the means to develop and manage their tourism industry, including financial investment, infrastructure development and for technical skills including IT.

## **2.2 DEVELOPING COUNTRIES - THEIR DEPENDENCY ON TOURISM**

There appears to be no agreed definition for a Small Island Developing State (SIDS), however the Report of a Commonwealth Advisory Group (Commonwealth Secretariat 1997) sets out some characteristics, including population, economic and physical, and describes it as one with less than 1.5m population (Commonwealth Secretariat 1997). Indeed, the Commonwealth Secretariat Report indicated that most of the states within the Caribbean and the South Pacific regions are thus classified.

Perhaps, then, the single most important theme which links the various definitions of the terms ‘Developing World’, ‘Third World’, ‘Small Island Developing States’ and ‘Development with Tourism’ is vulnerability, as they are susceptible to risks and threats, both seen and unseen. Indeed, as described in the report, SIS characteristics are openness, insularity, resilience, weakness and dependence (Sutton and Payne 1993).

The level of dependence on tourism varies for SIDS within the Caribbean and the South Pacific. The poorer countries have little tourism and few natural resources or services to export, relying on other forms of income generation including migration of their population, remittances from nationals living overseas, aid from metropolitan donors and bureaucracy and borrowings and so on, referred to as the MIRAB model: Migration, Remittances, Aid and Bureaucracy. Bertram points out in his paper, *The MIRAB Model 12 years on* (Bertram 1999), there are alternatives to how microstates finance their current account deficits:

- Many countries rely entirely on sale of goods and services including tourism as their biggest revenue earner
- Some rely on heavy overseas borrowings and aid
- Some are heavily dependent on being a MIRAB economy.

Across the Caribbean and the South Pacific, individual countries' reliance on the sale of goods and services or components of MIRAB to generate their income has different levels of relevance and importance. Consequently, reliance on tourism development aid has different levels of internal priority within each country. The common factor to the three models above is a dependence on the developed world for its source of funds.

Many tourism destinations are dependent on the large metropolitan areas for tourists and the airlines to bring them. Some SIDS, because of the fragile nature of their economies and a prime dependence on tourism as a main source of foreign exchange, are critically dependent. These destinations also depend on the same metropolitan areas for aid and technical assistance to develop the infrastructure necessary for them to accommodate the tourists themselves. It is this dependence on technical assistance and on development aid as well as the market for inbound tourism that makes them vulnerable. In addition to this dependence, some believe that tourism may have some sinister influences as a form of imperialism. There is a division between the have and have-nots, with lesser-developed countries serving the pleasure of the developed countries (Nash 1989).

This creation of both dependence and influence go hand in hand. The IMF and World Bank have imposed so-called structural adjustments policies and programmes upon Third World states in return for finance, and have forced them to adjust their economies. But these are by no means the only institutions involved. Equally important are the policies of other super-national regional development banks, the EU and World Tourism Organisation (Mowforth and Munt 1998).

The importance of the EU as an aid donor to tourism can be seen in the Caribbean and its aid funding via the Caribbean Tourism Organisation (CTO), with similar funding programmes across the developing world via other regional tourism organisations and national governments. The EU, through a funding agreement – the Lome Convention, an aid and trade agreement with a number of African, Caribbean and Pacific (ACP) countries – has been in the forefront of providing funds to the tourism sector (Poon 1993: 42) Also, the 3rd Protocol of the Lome Convention (1986–90) recognised the “*real importance of tourism*” (Pattullo 1996: 5). The Convention has now been superseded by a new EU/ACP agreement called the Cotonou Partnership Agreement.

Clearly, from the above we can see the linkages between the importance and dependency of tourism to the Developing World, and in particular to the SIDS of the Caribbean, and their vulnerability and dependence on the metropolitan states for both tourism and for aid, together

with the importance of the EU as a prime aid donor, and the significance of these same aid sources to provide the means of developing tourism industries, including the provision of modern tourism technologies.

### **2.3 TOURISM TECHNOLOGY AND ITS IMPORTANCE TO DEVELOPING COUNTRIES**

The most recent and powerful influences to historical travel and tourism trading structures are technology (Hall 1994: 4). Sweeping changes in the worldwide travel industry in recent years have left many tourist boards trying to adapt their missions, marketing and organisations to meet new demands. Nowhere is this more evident than in the use of technology to market and sell destinations. By far the most important area of impact of technology is on the areas of marketing, distribution and sales (Poon 1993).

Poon suggests that “*New Tourism*” (Poon 1993) means that new technologies will make developing countries less dependent on the developed countries for product distribution and sales. However, my research to date suggests that, as the major technology developments and distribution systems are increasingly polarised and owned by the major airlines and travel companies in the developed world (principally the USA and Europe), this perceived freedom of “*New Tourism*” merely exchanges one dependency for another.

Modern tourism destination marketing and management technology is expensive and time consuming to implement. It also requires appropriate levels of computer literacy, technology infrastructure and telecommunications to be in place to ensure a successful outcome. Computers and communications technologies have become indispensable to the industry (Poon 1993: 41). The microstates of the Caribbean and South Pacific, because of their distance from major markets, rely heavily on travel distribution systems (GDSs) to promote tourism (Milne 1996). Thus, for the Caribbean countries, the use of technology to market and promote their tourism products is, and will continue to be, important and vital if dependence on the tourism dollar grows.

Whilst these new developing destinations need the new technologies in order to compete in the world tourism market, many lack the finance, technical infrastructure and technical expertise to develop and implement the systems that have now become the accepted tourism product marketing and sales methodologies.

*“Information is power and this could well lead to as struggle for control over the Internet and its networks in the coming years.”*

(Mowforth and Munt 1998: 29)

No player in the tourism industry has been untouched by information technology – and these information transmission tools are indispensable to the tourist trade (Poon 1993). A technology consulting component was identified and implemented in the EU-funded South Pacific Regional Aid Programme (Deloitte and Touche 1994) and similarly into the Caribbean aid programmes with the MIS project (ITC 1999-2001) and (CHL 2005-2008).

IT is transforming the global economy and creating new business links and opportunities that cross business sectors, cultures and distances. Access to the technologies remains difficult in many parts of the world, especially in the Least Developed Countries (LDCs). This inequality is referred to as the digital divide. Often the digital divide is a reflection of social and economic inequity between and within developing countries (Finquelievich 2003). Developing countries need to proactively integrate themselves into IT society to avoid remaining on the periphery of the global economy. This is particularly true of the tourism sector. Tourism is an information intensive sector and IT is a key driver for developing countries to organise and market their tourism products.

No sector has been more affected by the technology revolution than tourism. IT has totally changed the historical trading structures of the industry, and possibly the commercialisation of the Internet has resulted in the most dramatic changes (Milne 2003) Not only has IT made it easier for developing countries to market and distribute their products and increase their customer base, it has also made it easier for stakeholders to access market and management data, to share information and build trading partnerships.

Encouraging the development of e-business practices in a developing economy makes it easier for countries to share information and to encourage co-operation among stakeholders (UNCTAD 2005). Moving into the e-business arena has provided opportunities for tourism stakeholders to offer fully developed web portals as comprehensive Destination Management Systems (DMS) that include booking and transaction facilities, thus promoting the opportunity to increase sales and to generate more revenue into a local economy.

IT has become one of the most effective tools for addressing the imbalance between competing destinations in the global market. Indeed, for many tourism market sectors and tourism products, marketing and selling through the Internet is fast becoming the accepted

and preferred method. However, because of the costs, plus lack of local IT providers and facilities, the practice in many developing countries has been for much of the off-line and on-line marketing and distribution services to be carried out by service providers based in the developed countries (Finquelievich 2003). As with the provision of investment capital, air services, and certain skills and expertise, the provision of IT has become another vital dependency that some developing countries do not have totally within their own control and may affect their ability to achieve sustainable tourism development.

In addition to the importance of e-business solutions, the importance of IT in times of major natural disasters and acts of terrorism and crime has now become vital. In these circumstances IT has become an essential tool as a means of anticipatory warning and post-impact crisis management and in controlling their harmful effects on tourism (Finquelievich 2003). Understanding the opportunities brought about by IT in the tourist sector and implementing effective e-business solutions has, in many developing countries, become a priority for tourism providers and public authorities at national regional and community levels.

Policy makers and tourism enterprises today need to understand the implications of IT developments and the importance of their role in developing and maintaining a strong sustainable tourism industry. Making IT and e-development strategies an integral part of policy planning is now essential in order to support the necessary human and physical infrastructure and to introduce and adopt measures to ensure equitable access and widespread capability to make maximum use of IT (UNDP 2001).

Developing countries need to adopt IT and associated business processes and management skills in order to remain competitive in the constantly changing and increasingly competitive global tourism market. The positive effect of IT on the tourism industry in a developing country depends on a national enabling IT environment that relies on multiple factors including access, infrastructure, education, capacity building and legal framework.

Without aid-funded IT projects to understand these opportunities and challenges, address these issue, and adopt pro-active implementation IT strategies, the tourism sector will fail to take advantage of the opportunities to improve product and market share in tourism markets, and is unlikely to develop a tourism industry that will be sustainable in the longer term.



## **2.4 IMPLEMENTING TOURISM TECHNOLOGIES – DEVELOPING COUNTRIES**

Whilst literature related to implementing tourism IT solutions within aid-funded tourism development projects in developing countries is limited, more general research related to technology adoption and implementation is extensive. Rogers (1995) proposed a developmental theory that tries to explain how new ideas (for example, technology) spread through a population by means of communication and interaction. At the organisational level, this theory conceptualises the process of adoption and diffusion as including two major phases: initiation and implementation (Yuan et al. 2006: 326–341).

The research showed that, traditionally, the initiation process usually starts with a problem or a defined need to be addressed by a technology solution. Initiation in itself can be oversimplified, as there are a number of stages, namely 1) define and agree the need, 2) locate a proven proprietary ('off the shelf') technology solution or develop a custom-built solution, and 3) agreement by the client to use or reject the suggested solution technology (Yuan et al. 2006).

If the decision is to adopt the technology, the implementation phase begins. During this phase, the technology can be customised to meet the specific needs of the client organisation. To some degree the organisation itself may need to change (organisation structure, systems, procedures and staffing and so on) to accommodate and make best use of the technology. The implementation phase is completed when the client accepts the technology, and so becomes an integral part of the organisation.

The conventional approach to developing and implementing technology solutions in a developed country environment usually follows the following stages: (Yuan et al. 2006)

### **Stage 1 – Initiation**

- Establish need
- Provide solution
- Accept solution

## Stage 2 – Implementation

- Customisation and modification
- Install
- Train

The success of IT implementations is dependent on the capacity of the organisation to use the technology to benefit itself and its customers. Studies of the effects of technology reveal that investment in IT often does not bring about remarkable improvements in organisational operation (Gates 1999). Thorp (1996), along with others (for example Brynjolfsson 1993), refer to this phenomenon as the information paradox or the productivity paradox. There is a mismatch between the amount of money an organisation spends on IT and actual improvements in information delivery and business value (Yuan et al. 2006).

This situation is still not well understood and most studies have examined historic outcomes of technology implementation in large organisations. Very few have directly examined how and why IT is actually used and managed within the context of small tourism organisations (Yuan et al. 2006; Gretzel and Fesenmaier 2001; Wöber and Gretzel 2000). This gap also applies to looking at IT use in small NTOs in developing countries.

This study looked specifically at the case of developing and implementing tourism technologies in seven small developing countries and focused both on Initiation (Stage 1) and Implementation (Stage 2), rather than just one or the other. Based on my professional experience, this accepts that in reality the overall project lifecycle (PLF) is a series of linked activities and each activity within the lifecycle affects and is dependent on the other activities. A goal of this study was to understand the dynamic relationships between the various activities within the PLC and the effect of the organisational capacity, and use of IT, on the project outcomes.

In this respect the objectives, as stated in this document for the DProf study, are:

1. To identify and understand the influences and impacts of the methodologies used in developing countries on the selection, specification, focus, implementation and outcome of modern tourism technologies (IT)

2. To identify and describe the effect of these influences on current project outcomes and evaluate their effect on expectations of the beneficiaries and outcomes stated as per the ICT project terms of reference.
3. To identify and examine failures and develop methodologies to overcome, rectify or eliminate the identified failures and publish guidelines in the form of a synopsis of this Project Report as guidelines to best practice in implementing tourism technologies in developing countries for publication and distribution to aid donors and professional bodies, as appropriate.
4. To integrate the research findings and develop a framework that improves the processes and practices used to develop and implement modern tourism information and communications technologies (IT) in a developing country situation.

During the field research, a wide spectrum of perspectives was found for the phenomenon of failure in implementing tourism technologies in the case study countries. The results presented in this report focus on the shortcomings of IT implementation within the context of the proposed model used in developed countries (as outlined above), and previous tourism technology implementations undertaken in the seven case study countries.

In particular, Chapter 4 summarises the responses of the interviewees of the case study countries about the catalysts and constraints to IT implementation, as well as the impact of implementing this technology while the NTOs coped with its demands. New theory is generated and presented as a framework to improve the processes and practices used to develop and implement modern tourism information technologies in a developing country.

## **2.5 AID, CONSULTANCY AND THE ROLE OF PROJECT MANAGEMENT**

Donor agencies such as the EU have internally agreed broad, long-term aid policies for geographical and focal areas for their funding. These policies may specifically include tourism, or may impact or influence tourism. From these policies are formulated high level-funding agreements with countries and regions. Typically, the Lome Convention was an agreement between the EU and the ACP countries (African – Caribbean – Pacific) for the EU to provide long-term development assistance during the period 1975 to 2000. It was periodically renegotiated to add new cooperation instruments and new priorities in development assistance (Commonwealth Secretariat 1997). In 2000 the European Union extended its Lome Convention, in the form of the Conotou Agreement.

From these overall policy agreements, the donors develop outline policies and programmes of aid for the various national and regional beneficiaries who are signatories to the funding conventions. Individual donors have specific sectors within tourism to which they wish to provide assistance– community tourism development, eco-tourism, and development of private sector infrastructure, tourism education, IT, HRD and so on.

During this process, governments and Non-Governmental Agencies (NGOs) with relationships with donors are continuously looking for appropriate development areas in order to attract aid funding and assistance. At the same time, national and regional needs are determined and prioritised by governments and industry leaders. Coming out of this process, applications for donor support are submitted, usually within a regional or national framework. One such regional organisation involved in this process is CARIFORUM, which liaises and co-ordinates regional Caribbean aid programmes to ensure a focus on regional priorities and avoid duplication in aid activity (Commonwealth Secretariat 1997). This attempts to define focal areas, priorities and programmes.

*“In recent years, conditionality, whereby donors condition their aid on the adoption of specific policies by recipients, has fallen from favour.”* As Pronk (2001: 623-4) observes, *“a new conventional wisdom is emerging that [aid] should be allocated instead on the basis of ‘selectivity’, preferentially channelled to those governments that already have demonstrated their commitment to policies that donors wish to support”* (Boyce 2002: 241).

*“Different parties within donor countries have different priorities notwithstanding efforts to cloak sectoral concerns in appeals to national interest. There are clearly divergent interests within donor countries. For example, a prime concern of the private business sector is securing contracts for the supply of goods and services. The political muscle of commercial interests is reflected in the fact that about half of bilateral aid is tied to the purchase of goods and services from the donor country.*  
(Boyce 2002: 241)

Following the identification phase, there are a number of stages, all of which present opportunities to those involved to influence outcomes. At Stage 1, a tender-controlled process appoints consultants for a scoping study and prepares Terms of Reference (TOR). As a matter of policy the EU selects consultants usually from European firms, sometimes with a local consultancy input. Involvement of the beneficiary is usually as the respondent to the fieldwork and project research. At Stage 2, expressions of interest (EOI) are called for from

firms of consultants, usually donor selected, with a track record of appropriate experience. At Stage 3, a Request for a Proposal (RFP) is issued to a selection of the Stage 2 firms. The donor and representatives of the beneficiary undertake a selection process. The winning firm mobilises its team.

This timescale from scooping a project (Stage 1) to starting a project (Stage 4) can be two to five years. The timescales from signing a funding agreement to achieving a project start (Stage 4) can be as long as four to six years. Durations for completing programmes and projects can be as long as three or five years. Therefore, the process from project concept to completion can take five to ten years, but the most likely period is four to five years.

It can be seen from the above that consultants are involved in the inception and specification stage for projects. They are involved in developing the terms of reference and work programmes for projects, involved in implementing and delivering the projects, and also involved in the review of the projects. They interface with the donors, are paid by the donors, and also interface with the beneficiaries for delivery of the various components. Therefore their involvement is such that they are in positions of influence throughout the project.

Participant observation and anecdotal research has suggested that factors affecting the outcomes produced by consultants include their background, nationality, experience, fee structures, consultancy expertise, project budgets and timescales, focal interests, hidden agendas, company strategies, donor influences, donor priorities and so on. All of these can affect the outcome of the project. Some of these factors (termed 'characteristics') can be attributed to some consultancy groupings more than others, that is big firms, small specialist companies, sole practitioners, universities, local or expatriates and so on. Whatever the mix, they will affect the outcome of the project and understanding these linkages is an important part of this research.

Information technologies have revolutionised the management of contemporary organisations and introduced a paradigm shift in the way businesses operate. The tourism industry is inevitably affected (Buhalis 1999); it was one of the first areas to do business electronically. In the 1960s, airline reservation systems, which can be regarded as the forerunners of today's e-commerce systems (Copeland and McKenney 1988; Kappel, Retschitzegger and Schröder 1998; Kapsammer, Retschitzegger and Wagner 1998) were already employed. Today, tourism information systems are one of the most important areas of tourism technology applications.

However despite increased investment in project management, studies show that IT failure rates remain stubbornly high. Butler Group (2007) believes that today's problems with project management result from several common factors including a lack of standardised approaches, no adoption of best practices and the fact that project management projects are often managed as separate IT projects, instead of being part of a larger business initiative.

It is evident from the literature that people-related issues dominate project performance (Kerzner 2006) and the importance of project leadership is widely researched and documented (Cleland 1995).

Management of projects goes back thousand of years. The builders of structures such as the pyramids, Stonehenge, and magnificent temples were the first known 'project managers'. These complex projects were managed with very simple tools and without any of the sophisticated project management tools available today (Maharaj 2006).

A project is a temporary endeavour to create a unique product, service, or result with a definite beginning and end (PMBOK 2004). An important characteristic of a project is the uniqueness of its deliverables, although some projects may have similar outcomes but different designs, locations and participants. According to the PMBOK (2004), another characteristic of projects is progressive elaboration. This involves developing in steps and continuing by increments that need to be co-ordinated and managed. As such, project management is the application of knowledge, skills, tools, and techniques to project activities to meet project requirements (PMBOK 2004). The process includes identifying the requirements; establishing clear and achievable objectives; balancing the demands for quality, scope, time, and costs; and adapting the specifications, plans, and approach to the concerns and expectations of the various stakeholders (PMBOK 2004).

Project management can be extended to the concept of strategic project management that entails *"the process of managing complex projects by combining business strategy and project management techniques in order to implement the business strategy and to deliver the organisation breakthroughs"* (Grundy and Brown 2002). The process consists of five stages: defining the project, creating the project strategy, detailed project planning, implementation and control, and review and learning. A key concept of strategic project management is looking at the strengths and weaknesses of previous projects in order to build the practice of continuous improvement into project management (Maharaj 2006).

Project managers are compelled to find ways to better anticipate the outcome of a project and not repeat the same mistakes, becoming one of the failure statistics of the Standish Group. The CHAOS Report (Standish Group 1994) also reported the following figures: 31 per cent of IT projects are cancelled, and 53 per cent are partially completed, with only 61 per cent of their intended functionality. Only 16 percent are completed on time, on budget, and on-capability. The average budget overrun is 189 per cent, and the average schedule overrun is 222 per cent.

Research found that, while there is a continued focus within project management circles to find improved methods which can be applied on a tried and proven basis for all situations, it is not scientific in nature. It is not a practice which can apply scientific testing regimes to arrive at best practice, and arriving at consistent project management practice is something of a Utopian concept (Cai et al. 2006).

There are, however, some accepted key practices identified from this literature review that need to be applied:

- 1) Knowledge Management – there needs to be a central repository for project information so that other projects can benefit (Cai et al. 2006). organisations that embrace knowledge management can expect productivity application increases of 40 per cent (Murch 2001).
- 2) Cross-Functional Teams – organisations need to understand the benefits and importance of using cross-functional project teams (Pinto 2002: 3), selecting effective teams. This enables organisations to achieve the high levels of performance essential to survival and prosperity in today's extremely competitive and rapidly changing environment (Huber and Glick in Robertson and Tippets 2002).
- 4) Clear Project Focus – getting mired in the details of the project management process and failing to keep a perspective and ‘see the forest through the trees’ creates its own set of problems (Cai et al. 2006).
- 5) Communication – an infrastructure that supports regular communication between stakeholders through the project development team is a tool for project success. Ensuring that stakeholders are provided with updates at milestones and that their expectations are being managed is also critical for project success.
- 6) Counterpart or Account Managers – these can ensure that stakeholders’ realistic expectations are met (Cai et al. 2006).

Understanding the six principles above, established in this literary review together with other factors identified in this research, I undertook the project management of this EU-funded Tourism IT Project.

## **2.6 THE RELATIONSHIP OF THIS INVESTIGATION TO PREVIOUS WORK IN THE AREA**

The literature research undertaken to date has shown that there is plenty of existing work in the areas of trade and aid (Overseas Development Council 1997), specifically on SIDS and their economic development (Poirine 1999), and also the use of consultants in aid-financed public sector reform (Bevan 2000).

There are also reviews of the effectiveness of aid and how effectiveness can be improved (World Bank 1998). There is literature that critically reappraises some of the policies and practices within international development agencies (Crewe, Emma and Harrison 1998), as well as analysing aid (Boyce 2002) and its effect (Randel, German and Ewing 2000). However, the effectiveness of aid-funded tourism development projects remains an issue for SIDS (Commonwealth Secretariat 1997).

From the literature research undertaken, it appears there is a weakness in that the current body of literature fails to consider the question of why previous attempts at implementing aid-funded regional tourism technologies in developing countries have not been totally successful. This research focuses on seven Caribbean SIDS to establish why. It will analyse the technologies and evaluate the implementation methodologies adopted. This will identify the causes of failure and put these findings to improving the development and implementation of a new EU aid-funded tourism MIS technology project, as part of the CRSTDP 2005/2008.



## **CHAPTER 3 - THE RESEARCH PROCESS**

### **3.1 INTRODUCTION**

This chapter has three aims. First, I explain the research theme. Second, I look at the research methodologies associated with my research theme and identify the appropriate research methodologies for this research. Finally, I explain how I collected and analysed the data for my research.

In selecting the research methodology, I needed to review a range of options and select the most appropriate and relevant design, or combination of methodologies. My proposed research was to study the implementation of tourism technologies into developing countries, where my own position was that of a worker/researcher. Therefore I needed a research methodology that would prevent or restrict influence due to my own biases. Following my review of the methodologies and the nature of the research, I selected a multi-case study using phenomenological methods as the most appropriate research method.

This chapter includes a brief explanation of case study and phenomenology as a research paradigm, and an explanation of the research design as it developed for my particular study. It includes the selection of the research participants, the data gathering and data storage methods used, and an explanation of the data analysis.

From a social constructivist position my research involved two methodologies case study (Yin 1994). My research methodology is a case study developed using phenomenological investigation (Creswell 1998). The research was conducted in three phases. In Phase 1 I undertook fact finding in the field and visited the seven research countries, exploring with my research participants the issues surrounding previous tourism technology implementations.

Analysis of Phase 1 generated research findings broadly related to the technology implementation issues. In Phase 2, further field trips were undertaken to the research countries associated with the implementation of the new EU-funded tourism technology (IT) system (MIST 2006) and to undertake further research. Phase 3 comprises analysis of the data collected using appropriate techniques to focus on issues related to previous implementation failures and to identify the way forward.

My research journey is framed within Hycner's explication process (Hycner 1999) and I used a modified process to analyse the data.

### **3.2 THE PHILOSOPHICAL RESEARCH POSITION AND GENERATING NEW THEORY**

It is suggested (Easterby-Smith, Thorpe and Lowe 2002: 27) that before researchers can consider an appropriate research methodology they must first be clear about their philosophy of research. They need to be able to clarify their research design, establish which designs will or will not work, and identify designs that may be outside their experience. My research theme is that of a social constructionist rather than a positivist. However, the nature of the research question also has a bearing on the methodology used. Here I explain why my research question could not have been answered by a positivist approach.

Positivism's philosophy is based on the only authentic knowledge being scientific knowledge, which can only come from positive affirmation of theories through strict scientific methods. Positivism implies a number of conditions:

- 1) the researcher should be independent and that their interests should be irrelevant
- 2) research progresses through hypotheses and deductions
- 3) the unit of analysis should be reduced to the simplest terms
- 4) there should be statistical probability, and
- 5) the sample size is generally large.

Social constructionism represents the opposite position (Easterby-Smith, Thorpe and Lowe. 2002) and is a sociological theory of knowledge that considers how social phenomena develop in particular social contexts. This is explained below, with specific reference to my own research.

The context for my research was the seven countries that were beneficiaries of the implementation of tourism technologies as part of more than one aid-funded programme (1999–2001 and 2005–2008). This is an environment in which I had worked professionally, and by virtue of my work experience and as a researcher I could not be a totally independent observer. My interest in the research question was the main driver for my research and the participants – aid donors and beneficiary countries – would also have an interest in its outcomes.

My aim was to understand how previous implementations were not totally successful and also if the results would be personal and unique to the research participants. I wanted to hear from

the participants how they and their staff managed and were affected by the implementation process. It was therefore not appropriate to start with any hypotheses.

At the beginning of my research I was not clear what would be the ‘unit of analysis’, which is the major entity being researched; in other words, the ‘what’ or ‘whom’ that is being studied. I accept that in social science research the typical unit of analysis is individual people. Other units of analysis may be groups, social organisations and social artefacts (Babbie 1995). However, I would not only be collecting data from individuals, the unit of observation, but drawing conclusions from larger groupings. Whilst the unit of observation is the unit upon which I would collect data, I would consider group characteristics from data collected from individuals, as in a population census, and focus groups and combine these at the explication stage.

My research population was involved in complex work situations involving the implementation and operation of various tourism technologies, and I was interested in capturing this complexity, not reducing their experiences to simplest terms. Finally, while participants were selected by theoretical sampling (Glaser and Strauss 1967), the number of participants was small. This is because of the low number of individuals in each case study country involved in the tourism technology implementations within the NTOs; moreover, the logic of sampling does not apply to qualitative, inductive research.

Adding to this overarching position is my relativist view that different people have different viewpoints. Collins (1983: 88) notes that what counts as the ‘truth’ – in my case how people manage IT implementations – can vary from country to country and from time to time. Therefore, I undertook this project from a social constructionist perspective with the aim of generating new theory relating to the implementation of tourism technologies in developing countries.

This research allowed participants to ‘tell it like it is’, so the collective rationalism of the research population might be distilled to build a new theory. My primary focus was to understand from the users of the new technologies what it was that caused problems and issues, both human and technical, within the project lifecycle of developing and implementing tourism technologies into these developing countries. Any theory resulting from this research should be one that would be useful to those involved, that is donors, technology developers and beneficiaries, when managing and influencing the development and implementation of new technologies in the future.

As a social constructionist with a relativist view, I approached my research through a series of observations and discussions, conversations and interviews with participants, looking for their meanings and understanding of the research issues.

### **3.3 RESEARCH APPROACH**

#### **3.3.1 Justification of the research methodology and method**

Preliminary research undertaken showed that the literature related to implementing tourism technology solutions in aid-funded tourism development projects within NTOs in developing countries is limited. This is despite the success of implementing these IT solutions remaining an issue, prompting this researcher to ask why.

Nodder, Mason, Ateljevic and Milne (2003) point out that quantitative research in the area of IT implementation in tourism has so far failed to provide a detailed understanding of the factors behind current IT usage in tourism organisations. The research question is a real issue preventing the successful achievement of project outcomes. This is the focus of this DProf research project, and because of the nature of the problem the philosophical approach is based on phenomenological investigation. I will investigate using in-depth critical research of participants in the project implementation process and will also apply the multi-case study method to seek commonalities and difference between the groups.

The rationale for the study is a holistic, multi-case approach, based on a theory-building multi-case study method described by Eisenhardt (1989) and Yin (1994). It includes both theory and implementation subject areas. The design attempts to gather information about activities that organisations use to transform, and how these activities were implemented. It is based on the following:

- Qualitative research can be less restrictive and more inductive than quantitative research.
- In-depth interviewing supplemented by related short structure interviews of those actually involved or affected by project implementation gives a rich picture of the actual phenomena understanding. This approach is realistic, as the research population has been involved in this subject area very recently so there are unlikely to be lapses in respondents' recall of distant events. The combination of in-depth and structured interview presents a way of checking occurrences and adds rigour to the overall process.

- This phenomenological approach has credibility, as it is faithful to everyday realities; transferable or modifiable, applicable to the tourism industry and other industries, and has relevance to tourism public and private sector players, and to academia.

Since the research question revolves around establishing what is going on, it suggests that qualitative research methods are appropriate. These methods will lead us to an understanding with depth rather than a superficial picture of expected response, which may be defensive of position and responsibilities for the failure of previous projects. Qualitative design's characteristics are that it:

1. is holistic. It looks at the larger picture, the whole picture, and begins with a search for understanding of the whole.
2. looks for relationships within a system or culture.
3. refers to the personal face-to-face, and immediate.
4. is focused on understanding a given social setting, not necessarily on making predictions about that setting.
5. demands that the research stay in the setting over time.
6. demands that the time in analysis is equal to the time in the field.
7. demands that the researcher develop a model of what occurred in the social setting.
8. requires the researcher to become the research instrument. This means the researcher must have the ability to observe behaviour and must sharpen the skills necessary for observation and face-to-face interview.
9. incorporates informed consent decision and is responsive to ethical concerns.
10. incorporates room for descriptions of the role of the researcher as well as description of the researcher's own biases and ideological preference.
11. requires ongoing analyses of the data.

Janesick 1994: 212

These provided guidelines and were incorporated into the methodology evaluation and into design of the study.

### **3.3.2 Research methods**

- a) Case Study Methodology

Yin (1994: 13), supported by Schramm (1971; 1994) describes a case study as a way of investigating a phenomenon within its actual context. Yin also suggests that to be effective, five components must be present in a case study:

- 1) clear research question(s)
- 2) clear proposition(s), if any
- 3) clear definition of the unit(s) of analysis,
- 4) the logical linking of the data to the propositions, and
- 5) the criteria for interpreting the findings.

This implies that the research is being used in hypothesis testing rather than hypothesis generation.

To respond, my research question is, “*Why did the development and implementation of modern tourism information and communications technologies, in particular the MIS implemented as part of the 1999-2001 EU-funded programme, not live up to expectations?*” Regarding propositions, I am seeking to generate new theory rather than to test it. Next, the unit(s) of analysis needed to be interpreted within the concept of the phenomenology investigation that I was undertaking. The definition of a unit of analysis is complex and is the subject of considerable debate in qualitative research, especially in phenomenology.

The remaining two components of Yin’s case study design format, the logical linking of data to the propositions and the criteria for interpreting the findings, are expressed in the following terms. Linking of propositions involves reflecting on the data and the development of a theoretical framework. Finally, the criteria for interpreting the findings are the subject of the data analysis.

Furthermore, a case study approach was used as this is the most common qualitative method used in information systems (Orlikowski and Baroudi 1991), being particularly well-suited when a phenomenon is broad and complex, when a holistic, in-depth investigation is needed, and when it cannot be studied outside the context in which it occurs (Benbasat, Goldstein and Mead 1987). I used case study research as I needed to understand the complex and ubiquitous interactions among organisations, technologies and people (Dubé and Paré 2003). This approach enabled me to research cases in specific settings and to discover unique characteristics associated with them (Yuan et al. 2006).

Case study also provides the opportunity to learn about contemporary situations in which events are currently unfolding (Patton 1990; Stake 1994; Yin 1994). In particular, it enabled me to assess the status of previous tourism technology implementations in the present, past and future, thereby permitting examination of its evolutionary path of IT implementation. It therefore provides quasi-longitudinal data (Yuan et al. 2006) that can be used to test/illustrate dynamic relationships. Using a phenomenological approach in a case study enabled me to examine cases in specific settings and to discover associated unique changes.

### **3.3.3 Research group**

#### **a) Research Group**

Justification of the research method is the justification of the research group. The selected seven small developing island states in the Caribbean are an integral part of this current EU-funded tourism technology project. They have been the subjects of previous aid-funded tourism technology projects also deemed not to be a total success by the beneficiary NTOs.

Each of the countries is expected to have distinctive issues as well as common problems. To investigate this, planned research generated the opportunity for a series of small case studies in each country. This allowed me a depth view of each location, from in-depth interviews supplemented by a wide vision, structured interview. The seven cases' internal differences and consistencies can be compared to reveal insights validated via the multi-case method.

#### **b) Multi-Case Studies**

As I am using a research group of seven small developing island states as the research base, this provides the opportunity to look at each country individually as a *case study*, and also as a *collective*. *Collective case study* is described by Stake (1994: 236–47) as “a grouping of individual cases who may or may not have common characteristics and are chosen because it is believed that understanding them will lead to better understanding, perhaps better theorising, about a still larger collection of cases”. Stake recommends that more than one case is examined, to confirm understanding of similarities and differences between them and then confirm existing theory or develop new. Stake suggests that, as each case is unique, it is highly likely that new theory can be developed if this approach is taken.

This appeared to be an opportunity, as this research is seeking to provide new insights that may or may not be applicable to the general tourism development IT sector, and more

specifically for the donor-funded tourism technology sector. There are advantages to be gained by being able to compare the results of interviews in one country against a number of similar interviews.

c) Gaining Access to the Research Participants

As the project manager of the current EU-funded Caribbean tourism technology project (2005/2008) and also a previous project (1999/2001), I was responsible for the strategy, design, and development and implementation activities for fifteen CARIFORUM countries. Within my project I therefore had terms of reference and budget access to all fifteen countries including the seven research countries, for both professional and research purposes. In the first instance I discussed my research project with the appropriate director of the Caribbean Tourism Organisation, the executing agency of the project, and with my reporting line. After gaining approval I proceeded with the selection of seven research countries from the total of the fifteen that I would be working with on the EU project.

My key contact for each country was the director of tourism, who provided information on, and access to other personnel, and arranged meeting rooms for interviews with participants.

Interviews took place in several phases to coincide with the stages on my EU-funded project:

Stage 1 – Feasibility Visit

Stage 2 – Scoping Visit

Stage 3 – Installation Visit

Stage 4 – Stabilisation Visit.

There were also some follow up visits, and a number of Regional Technology Workshops attended by participants from the seven research countries.

### **3.3.4 Trustworthiness of qualitative research**

In executing this particular research methodology, I understood that as a researcher that I must be able to demonstrate the rigour of the research to the wider research community.

Quantitative research focuses on measurement and analysis of causal relationships between variables (Denzin and Lincoln 1994: 4) and is judged under the criteria of internal validity, external validity, reliability and objectivity. Qualitative research is judged under somewhat



different criteria; interpretive aspects and descriptions. It has been subjected to charges that it is sloppy, merely subjective, observational, and lacking in rigour (Lincoln and Guba 1985: 289). However, phenomenology and case study research have agreed ways of judging their reliability and validity. When used in tandem, these criteria give comfort on the ‘trustworthiness’ of the research.

Lincoln and Guba (1985: 289-93) interpret the research ‘trustworthiness’ of qualitative research within the quantitative frame described above. However, they note that these terms have different meanings. Reliability is synonymous with “*dependability, stability, consistency, predictability and accuracy*”. Saturation means that a concept is established and can be defended, and the saturation of qualitative data ensures its reliability.

Objectivity, in Lincoln and Guba’s view, is a relative term and is the range between being objective and subjective. They make the point that all social science research contains some subjectivity and is accepted and declared. In this way, the reader can frame their own judgement about the ‘objectivity’ or otherwise of the piece. Validity is contained within the internal logic of the research in response to the questions. Are there sensible causes and connections within the theory? Can the work be generalised beyond this setting?

My research was within the international tourism industry and used seven case study Eastern Caribbean Islands, so counterbalance can be considered to exist between the participants’ own data and results of the different islands. I was not setting out to compare or counterbalance results with any other or similar industry; therefore triangulation was not appropriate. Qualitative researchers generally do not claim that there is one correct interpretation, bringing into question the need to test hypotheses through triangulation (Janesick 1994: 212). Glaser and Strauss’s (1967) philosophy is that the reader, given the data, should be able to make up their own mind about the result, including its trustworthiness, that then leads to the final theory.

### **3.3.5 Alternative research methods**

Prior to the final selection of a phenomenological approach as the research method, other methods were considered and rejected as they failed to offer the insights the project needs as appropriately as Hycner’s explication process (Hycner 1999).

Among the methods reviewed were:

a) Quantitative Research:

Quantitative research has a valuable place in researching; however, it substantially relies on testing hypotheses to generate new theory and knowledge. The basis of this DProf research was that of wanting to know how and why previous MIS implementations had failed. The ‘how’ implies that we did not know the hypothesis to test, but rather sought to ask what it might be. As such, quantitative research appeared not to be the most suitable methodology to use.

b) Qualitative Research Methods

***Ethnography***

Ethnography is often used in qualitative research, particularly anthropology, and often consists of in-depth interviewing of particular groups, participant observation and informal interviewing often conducted over a substantial period of time. Participant observation was not appropriate in this situation, as behaviours were not needed to be observed. Rather, the focus of this research was how people thought about various matters. Informal interviewing was inappropriate as interviews would need to be scheduled and, as notes would be taken, it could hardly be termed informal. The length of time for this research was restricted, so again this was inappropriate. However, in-depth interviewing will form part of this research.

### **3.4 RESEARCH DESIGN**

The research focused on the period 1999–2008. This period was the formative time for two donor-funded tourism technology (MIS) projects in the Caribbean; 1999–2001 and 2005–2008 which included the seven research countries. It was also a very active period in the evolution and growth of global travel and tourism industries and changes in tourism trading structures and practices brought about by the introduction of new technologies. The testing period for new methodologies developed as an output of this research will be part of the current tourism technology project implementation 2006–2008.

Key research targets are the national tourist offices and other national agencies, and private sector trade associations of the research countries that were beneficiaries of previous tourism (MIS) technology initiatives funded by the EU, and where the CTO was the executing agency. The research will identify shortcomings and causes for failures and propose new theory.

The research will be divided into a number of interrelated phases; interviews will be individual, in-depth and in focus groups and will be designed to collect relatively large groups of information for analysis (Veal 1997). Workplace observation will also be used to gather information. Analysis of the qualitative data relating to in-depth interviews and document research will be used to tease out themes, patterns and categories. However, a more conventional approach will need to be used to analyse structured interviews and any questionnaires (Easterby-Smith, Thorpe and Lowe 2002).

Secondary research will continue to involve the gathering of information during my work as project manager and my ongoing interaction with participants, donors, beneficiaries and consultants.

As the tourism development consultant and project manager, I worked on this EU-funded project with the CTO for some three and a half years (2005/2008) thus giving access to the research countries as well as to Caribbean-based aid donors and research libraries. All of my travel to the research countries was part of my work. I spent cumulatively three to six weeks in each country over the period of the research (2005/2008).

The research group of countries were seven Eastern Caribbean countries: Dominica, St Lucia, Grenada, Trinidad and Tobago, Antigua, St Kitts and Nevis, and St Vincent and the Grenadines.

Each of these seven countries has the following similar characteristics:

- All have been beneficiaries of the 1999/2001 and 2005/2008 EU-funded tourism technology initiatives
- All are classified as developing countries
- Tourism is be one, or the most, major foreign exchange earner
- All are users of some technology initiatives
- All have published tourism development strategies involving technology
- All are be dependent on major metropolitan source markets for their tourism
- All are or have been recipients of overseas aid with respect to introducing new technologies.

The planning, the identification of the research population, methods and data collection techniques to be used, and the research itself were undertaken during the period January

2005–June 2008. As I was the Project Manager and IT Consultant for this EU-funded project, I had access to the research population and the resources at my disposal to undertake the research.

### **3.4.1 Phenomenology – the research method selected and why it was used**

Although the origins of phenomenology can be traced back to Kant and Hegel (Vandenberg 1997: 11), Husserl is regarded as “*the fountainhead of phenomenology in the twentieth century*” (Groenewald 2004).

Creswell 1994: 54) states that phenomenology has several assumptions:

- 1) That the researcher can only understand what is going on if they hear it directly from the participants
  - 2) That the questions the researcher asks participants will enable the participant to describe what is happening in their lives
  - 3) That the data will usually be gathered by interviewing participants
  - 4) That the data analysis will produce clusters of meanings, and may be very textual and descriptive, and
  - 5) That it assists the reader to gain a better understanding of the experiences of the participant. This methodology appeared to be most appropriate for my intended research.
- (Groenewald 2004)

Groenewald (2004) notes that realities are thus treated as pure phenomena and the only absolute data from where to begin. Husserl named his philosophical method ‘phenomenology’; the science of pure phenomena (Eagleton 1983: 55). For Giorgi, the operative word in phenomenological research is ‘describe’. The aim of the researcher is to describe as accurately as possible the phenomenon, refraining from any pre-given framework, but remaining true to the facts (Groenewald 2004).

Groenewald notes that a researcher applying phenomenology is concerned with the lived experiences of the people (Greene 1997; Holloway 1997; Kruger 1988; Kvale 1996; Maypole and Davies 2001; Robinson and Reed 1998) involved, or who were involved, with the issue that is being researched.

The following section outlines how my research evolved. It includes a synopsis of the research paradigm, a description of the selection of the research participants, and includes the methods used for data gathering and storage.

### **3.4.2 How the study evolved - the research paradigm of the study**

My research undertaking began with the selection of the area for research, as well as the paradigm (Creswell 1994; Mason 1996). Denzin and Lincoln (2000: 157) define a research paradigm as “*a basic set of beliefs that guide action*”, dealing with first principles, ‘ultimates’ or the researcher’s worldview (Groenewald 2004).

A researcher’s epistemology, according to Holloway (1997), Mason (1996) and Creswell (1994), is literally the theory of knowledge, which decides how the social phenomena will be studied. My position regarding the research that I undertook can be formulated as follows. The data is from the perspective of people involved in implementing tourism technologies in either a management, co-ordinating or a technical implementation role. Because of this situation I engaged with these participants in collecting the data.

Based on Davidson (2000), Jones (2001) and Groenewald (2004), I identified phenomenological methodology as the best for this type of study. Phenomenologists, in contrast to positivists, believe that researchers cannot be detached from their own presuppositions and should not pretend otherwise (Hammersley 2000). In this regard, Mouton and Marais (1990: 12) state that individual researchers “*hold explicit beliefs*” (Groenewald 2004). This was particularly relevant in my case, since I was the Project Manager responsible for a project implementing tourism technologies into a number of developing countries comprising the subject of my research.

The focus for this research was to gather data on the views of research participants concerning the phenomenon of the problems they experienced in implementing previous tourism technologies within the NTOs in their own developing country. The above outlines my explanation of what is meant by phenomenology, and also describes the research paradigm.

### **3.4.3 Locating the research participants/informants**

To locate the research participants, I chose purposive sampling to identify the primary participants. This is a non-probability method based on choosing respondents because they are uniquely able to provide needed information. For example, to learn about how decisions in

villages are made an investigator might select samples of village leaders and elders (see Dr Lee Burchinal 2006, *Methods for social researchers in developing countries*). I selected the sample based on my judgement and the purpose of my research (Babbie 1995; Greig and Taylor 1999; Schwandt 1997), looking for those who “*have had experiences relating to the phenomenon to be researched*” (Kruger 1988: 150; Groenewald 2004).

I made use of previous visits to the research countries, historical reports and records, Internet searches, and telephone and email enquiries to the tourism offices to identify the directors and managers of research and information management. I also identified the IT managers and staff responsible for implementation of the tourism technology programmes. Interviews were arranged with these programme managers. These interviewees are the primary unit of analysis (Bless and Higson-Smith 2000); giving their informed consent (Bailey 1996: 11; Arksey and Knight 1999; Groenewald 2004), they participated in discussions, interviews and conversations.

In order to trace additional participants or informants, I used snowball sampling. This is a method of expanding a sample by asking an informant or participant to recommend others for interviewing (Babbie 1995; Crabtree and Miller 1992; Bailey (1996). Holloway (1997) and Greig and Taylor (1999) call those through whom entry is gained ‘gatekeepers’ and those who volunteer assistance ‘key actors’ or ‘key insiders’. I requested the sample interviewees to give, at their discretion, the names and contact details of persons based in commerce, industry and/or government who had also participated in the tourism technology programmes.

Given these criteria, these people selected were most likely to be able to assess the relative importance of implementations from an organisational point of view (Glick et al. 1995) and would also be able to view the effectiveness and shortcomings experienced and be knowledgeable about the area I was researching.

Key participants were then scheduled for face-to-face interviews.

#### **3.4.4 Conducting the research**

Interviews were conducted by asking a series of open-ended questions about implementation history and its effects, as well as any issues or shortcomings. Each interview lasted twenty to forty minutes to briefly describe situations and experiences that occurred during and since the adoption of the specific tourism IT applications.

Wide ranging discussions concerning implementations and to what extent changes had occurred for each of the following time frames: 'in the past', 'at the present', and 'in the future'. Special emphasis was placed on their account of implementations regarding the benefits, shortcomings and barriers to implementing these specific tourism technologies. Data was gathered through in-depth semi-structured interviews. All interviewees were encouraged to give freely their account of their experience of IT implementation and use, and state how IT has changed the organisation's operations, and describe their vision and expectation for future changes.

Although this research was also part of my EU-funded Tourism Technology Project, in order to ensure ethical research I made use of informed consent (Holloway 1997; Kvale 1996). I also developed a specific informed approach, as the discussions and interviews held were in the normal course of my work as the Project Manager of the implementation of an EU-funded tourism technology, namely:

- That as part of my EU project they are also participating in research to evaluate previous implementations to develop guidelines for current and future implementations
- The purpose of the research (without stating the research question)
- The procedures used in this research
- The voluntary nature of research participation
- The interviewee's right to stop the interview at any time
- The procedures used to protect confidentiality.

All who participated gave their consent.

Boyd (2001) regards two to ten participants or research subjects as sufficient to reach saturation and Creswell (1998: 65, 113) recommends "*long interviews with up to ten people*" for a phenomenological study. I selected a sample size of five to eight in-depth interviews per country for directors of tourism, research and information managers and technology managers and additional interviews with staff who were involved and responsible for implementing previous and current tourism technology initiatives. With another group of programme participants, some participated in a focus group discussion. The purpose of collecting data from different kinds of informants is a form of triangulation – 'data triangulation' – to contrast the data and validate the data if it yields similar findings (Arksey and Knight 1999; Bloor 1997; Holloway 1997).

Data-collection interviews continued over a number of field visits until the topic was exhausted or saturated; that is, when interviewees, either subjects or informants, introduced no new perspectives on the topic.

The data collection interviews and field activity undertaken, and the resulting outputs, are shown in the following table – Summary of Research Activity.

**Table of Summary of Research Activity**

TITLE	ACTIVITY	OUTPUTS
Case study country field visits	7 – 8 visits to each case study country during the period 2005-2008	50 field trips
Interviews	30 – 50 interviews per country	280 interviews
Participants	Tourism ministers, directors, managers, IT personnel, tourism research personnel	25 prime interviews, 10 in depth interviews and 15 follow-up interviews/ discussions per country.
Research outputs	Collect research data	Interview notes, field notes, country background notes, memos, interview summaries, and ‘back to office’ reports (5 –8 per country) and project visit commentaries including quotes from interviews.

The outputs of these activities formed the basis of the key research data.

### 3.4.5 ‘Analysing’ the data

My research showed that the term ‘data analysis’ is usually avoided because, as Hycner cautions, ‘analysis’ has dangerous connotations for phenomenology, as it usually means a ‘breaking into parts’ and therefore often means a loss of the whole phenomenon. On the other hand, explication implies an investigation of the constituents of a phenomenon while keeping the context of the whole, and it is a way of transforming the data through interpretation (Groenewald 2004).

Qualitative research is complex, however, and Carney’s Ladder of Analytical Abstraction (1990) is one way of framing the qualitative research process. It begins with gathering data from participants and looking for linkages in the data (Table 1). These broad initial sweeps of data analysis contextualise the research in terms of a raft of different themes within the data. I



selected the Carney's Ladder to provide me with a framework and means of 'analysis' or explication of the data in which to consider the overall research process, that is, the movement from data gathering through analysis to final theory development.

The Ladder allows the research data, via a series of stages, to be integrated into one explanatory theory. In concluding the qualitative research, the data will have been considered within the context of its gathering and participants, and against known understandings. It facilitates asking questions about the data received; whether it is complete, and if the research participants are appropriate, and so on. Time for critical thinking about results, both interim and final, is important as, unlike quantitative research where technology can be engaged to expound definitive results, participants' words are less definitive and present multiple meanings.

The process of undertaking qualitative research is not necessarily straightforward and leading to a definite conclusion. Whenever research involves participants and researchers with subjective views and biases, the research process can be fluid. This is something for the researcher must be prepared and was a feature I experienced in my research.

In concluding this section, I introduced Carney's Ladder of Analytical Abstraction (Carney 1990) as the qualitative research and analysis process employed during this research. Carney developed this as a means of expressing the analytical journey of qualitative research, an approach that fits comfortably with my phenomenology research approach. The detail of how I undertook the explication of the research data using the Ladder is explained in Section 3.7.1.

#### **3.4.6 Ethical issues**

For the type of research to be undertaken, and in my professional experience, the criterion for informed consent is envisaged to be sufficient for face-to-face interviews. However, care was taken to guard against the tendency for subjects to underestimate the potential consequences of giving their consent. The attraction of self-revelation can also sometimes be strong, and this tendency can make the job seemingly easier, but place an added burden of responsibility on researchers (Reid 1996). This was taken into account and acted on during the research process.

Ethical issues for this research project centre on the improper use of data sources, whether verbal, texts or documents. In this project, problems might occur because of the dual purpose of some interviews and data gathering. The first purpose of the research is for the EU-funded

IT development project that I am working on; whilst the second purpose is for this DProf project. Whilst interviewees are aware and pleased to co-operate with the first purpose, they might not be so aware of the second purpose. Whilst the focus of the dual purpose of the interviews is very close, informed consent on the true nature and scope of the interview is therefore important, to ensure that the ethical issues are covered. Another critical ethical issue is that, when researching reasons for failure or barriers to success in previous IT projects, respondents point some causes at individuals for lack of skills, ability, or other reasons, perhaps political. This matter must be dealt with by protecting anonymity and respecting the confidentiality of the respondents.

This type of research is likely to involve sensitive topics such as business practices and market competitiveness between the research countries. As a result, a professional and ethical judgement has to be made as to whether the publication of such information is right in meeting the objectives of the project. In any case, this can be handled by protecting anonymity of respondents and obtaining permission.

Although it is not always the case that the respondent will directly benefit from the research, in this case they probably would benefit, as the output of this EU-funded project is new IT that will have been developed incorporating their observations and comments. However, the approach to respondents should be open. It should not coerce people without their knowledge or consent, and should not conceal the dual purpose of the research interview.

An overarching protection for the ethics of this research is that, as a qualified management consultant, I am bound by the professional ethics of my profession and my reputation. Incidents adversely involving either would badly affect my future ability to win and undertake work.

### **3.5 DATA COLLECTION**

#### **3.5.1 Data gathering methods**

My central research question was: “*What are the issues that led to problems in implementing previous tourism technology initiatives in your organisation*”. Bentz and Shapiro (1998) and Kensit (2000) caution that the researcher must allow the data to emerge: “*Doing phenomenology,*” means capturing “*rich descriptions of phenomena and their settings*” (Groenewald 2004).

For this reason, the research questions put to participants were:

- What was your experience in previous implementations of tourism technologies in your organisation?
- What lessons have you learned from these experiences?
- What value has been derived from these efforts?

Kvale (1996) draws a distinction between the research question and the interview question.

I conducted unstructured in-depth phenomenological interviews with all interview participants. My questions were “*directed to the participant’s experiences, feelings, beliefs and convictions about the theme in question*” (Welman and Kruger 1999: 196) and to address the research questions above.

Data was collected as to how the participants “*think and feel in the most direct ways*” (Bentz and Shapiro 1998: 96; Groenewald 2004). I focused on what goes on within the participants and got the participants to describe the lived experience in their own way and as freely as possible

I found that the duration of interviews and the number of questions varied from one participant to the other. Kvale (1996) remarks with regard to data capturing during the qualitative interview that it “*is literally an inter view, an interchange of views between two persons conversing about a theme of mutual interest*”, where researcher attempts to “*understand the world from the subjects’ point of view, to unfold meaning of peoples’ experiences*” (Groenewald 2004). Bentz and Shapiro (1998: 96) observe that, at the root of phenomenology, “*the intent is to understand the phenomena in their own terms — to provide a description of human experience as it is experienced by the person themselves*”), allowing the essence to emerge (Cameron, Schaffer and Hyeon-Ae 2001; Groenewald 2004). I also used field notes, memoing and essays (Miles and Huberman 1994: 69) to record what I heard, saw and experienced so that I could later reflect on findings. Miles and Huberman emphasise that these must be dated so that later the researcher can correlate them with the data.

As Groenewald (2004) warns, I had to guard against becoming so absorbed in the data-collection process I failed to reflect on what was happening. However, it is important that the researcher maintains a balance between descriptive notes and reflective notes, such as hunches, impressions, feelings, and so on (Miles and Huberman 1994).

In addition to the interviews conducted in this study I talked to data entry clerks, research officers and assistants, and IT staff, asking them to compare and comment on the current and previous aid-funded tourism technology programmes with others in which they may have been involved. I also observed the workplace and viewed the tourism technologies that were referred to and observed the users in their workplace, better to understand the comments made.

The three data-gathering methods that I used were unstructured in-depth phenomenological interviews, memoing and essays.

### **3.5.2 Data-storing methods**

To store the data, I recorded each interview in note format and assigned a code, for example 'IT Manager, Dominica, 21 May 2005'. When more than one interview took place on a specific date, the different interviews were identified by their unique title. I recorded each interview on a separate document, and as soon as possible after each interview I reviewed the document and made notes. I transcribed key words, phrases and statements to allow further examination.

Recording and transcribing interviews electronically for this type of fact-finding and in-depth interview is not, in my experience, common practice by management and IT consultants. It may be regarded by some interviewees in developing countries as culturally unacceptable, shows a lack of trust, creates some suspicion and is not as 'open' as note taking, where the interviewee can see what is being noted. It may also inhibit a free flowing discussion and affect the privacy, quality and range of interviewee comments.

Field notes are my secondary data storage method in qualitative research. I am an experienced management consultant with many years' experience working in the field, so I am well used to this form of interview recording technique. Because the human mind tends to forget quickly, field notes by the researcher are crucial in qualitative research to retain data gathered (Lofland and Lofland 1999). The researcher must be disciplined to write them up comprehensively as soon as possible after each interview.

My field notes reflected four elements of study that I wished to capture:

1. Observational – what happened
2. Theoretical – develop meaning
3. Method – reminders, instructions or critique
4. Analytical – summary or progress reviews.

As Groenewald (2004) points out, it is important to note that field notes are already “*a step toward data analysis*”. Morgan (1997: 57–58) remarks that, because field notes involve interpretation, properly speaking they are “*part of the analysis rather than the data collection*”. It is important that the researcher must prevent the data from being prematurely categorised into the researcher’s bias with respect to the causes of failure or shortcomings with previous implementations. However, the writing of field notes during the research process ensures the researcher can further clarify each interview setting (Caelli 2001; Miles and Huberman 1994).

After each field visit, the EU Project required that I complete a full report on the visit on activities, interviews and meetings undertaken, findings, recommendations and conclusions. These reports were also stored on my computer with other project documents; some project documents were stored as hard copy. The full EU MIS Report for Phase 1 Development and Phase 2 – Implementation, although confidential project documents, are also presented as part of the documentation for this DProf project

Research documentation was filed as follows:

- My notes made during the interview
- The field notes that I made subsequent to each interview
- Any sketches, charts or schedules made during the interview
- Any additional information that the participant offered during the interview, for example brochures, system user manuals and so on
- Any notes made during the data analysis process, for example grouping units of meaning into themes
- Any additional/subsequent communication between the participant and myself.

Data storage includes field notes and filing of hard copy documentation. The interview and field notes were also stored electronically on multiple hard drives.

The process of data gathering methodology suggested by Miles and Huberman (1994a) was used to ensure that the qualitative data was gathered, processed and analysed in an appropriate manner.

### **3.6 ANECDOTAL RESEARCH**

Some initial field research had been undertaken prior to the start of this DProf project as part of this researcher's consultancy activity and commenced with interviews with directors and ministers of tourism in the research countries, together with users of the MIS technologies.

### **3.7 THE DATA ANALYSIS**

#### **3.7.1 Explication of the data**

As noted by Groenewald (2004), the heading 'data analysis' is usually avoided because of Hycner's caution that 'analysis' has dangerous connotations for phenomenology: the "*term [analysis] usually means a 'breaking into parts' and therefore often means a loss of the whole phenomenon whereas 'explication' implies an investigation of the constituents of a phenomenon while keeping the context of the whole*". Groenewald (2004) also points out that Coffey and Atkinson (1996: 9) regard analyses as "*systematic procedures to identify essential features and relationships*". He concludes that analysis is a way of transforming the data through interpretation (Groenewald 2004).

I used a four-step modified process based on Hycner's (1999) explication process, as follows:

- 1) Summarising each interview, validating the data collected with previous fact finding and interviews, historical records and prior knowledge and, where necessary, rechecking and modifying it
- 2) Looking for linkages between the data
- 3) Extracting general and unique units of meaning and categories from all the interviews and forming themes
- 4) Producing the composite summary of theory.

#### **Step 1 Summarising each interview, validating it and where necessary modifying it**

*Activity 1a on the Ladder* – A summary of each interview was prepared in order to give a holistic view. Ellenberger (1970) captures it as follows: whatever the method used for a

phenomenological analysis, the aim of the investigator is the reconstruction of the inner world of experience of the subject. Each individual has his own way of experiencing temporality, spatiality, materiality, but each of these coordinates must be understood in relation to the others and to the total inner 'world' (cited in Hycner 1999: 153–54). As suggested by Groenewald (2004), I conducted a validity check, where appropriate, returning to the informant before my field visit was completed to determine if the essence of the interview had been correctly captured (Hycner 1999: 154). Any modification necessary can then be carried out as result of this check (Groenewald 2004).

In effect, the identification and explication of the interviews is a process that starts at the interview itself. Even at the earliest stages of the interview I looked for themes, concepts and linkages between the case studies and individual interviews. This data explication process of constant comparison is time consuming, and outcomes were cross-referenced. Theories began to emerge with an understanding of the various aspects of the phenomena. At the early stages I used 'memoing and essays' during and after the interviews to record my thoughts and "*the writing up of ideas as they strike the researcher*" (Glaser 1978: 83-84). My memos and essays ranged from a few lines to a pages of thoughts, and form the basis for my conceptual thinking about the phenomena I was researching .

Miles and Huberman (1994b: 72) describe the memo as "*one of the most useful and powerful sense-making tools at hand*" and, due to their importance, I followed Strauss and Corbin's (1990) guidance on sensible memo formatting and management, including dating the memo, indicating linkages to other codes/categories, and tracking from where thoughts came, for example with interview numbers.

## **Step 2 Looking for linkages between data**

*Activity 1b and Activity 2 on the Ladder* – this step began with gathering data from interviews, summarised in Step 1 above, and looking for linkages in the data. These initial broad sweeps of data analysis contextualises the research in terms of the volume of different themes within the data.

*Activity 1b on the Ladder* – I wrote my own notes about each interview, trying to summarise what was going on. At the same time I looked for any linkages and theme that were developing (codes). From this process I derived a list of themes from all the interviews carried out.

*Activity 2 on the Ladder* – I then overviewed my entire research data from a ‘*helicopter view*’, thus called because I paused above the data and looked down on it all!

### **Step 3 Summarising each interview, validating it and, where necessary, modifying it**

*Activity 3a on the Ladder* – this step comprises the delineation of units of meaning and formation of themes

I identified statements that illuminated the researched phenomenon and they were extracted or ‘isolated’ (Creswell 1998; Holloway 1997; Hycner 1999). Groenewald (2004) warns that, at this stage, researchers are required to exert a substantial amount of judgement while consciously bracketing their own presuppositions, in order to avoid inappropriate subjective judgements (Groenewald 2004).

The list of units of ‘relevant meaning’ extracted from each interview was carefully scrutinised and the clearly redundant units eliminated (Moustakas 1994a).

The extraction considered the literal content, the number – the significance – of times a meaning was mentioned, and also how it was stated. The actual meaning of two seemingly similar units of meaning might be different in terms of their weight or position in the chronology of events (Hycner 1999).

The next stage was to cluster units of meaning to form themes. This was achieved by rigorously examining the list of units of meaning. Here, the researcher tries to elicit the essence of meaning of units within the holistic context. Hycner (1999) remarks that this step calls for even more judgement and skill on the part of the researcher, and Groenewald (2004) warns that the phenomenological researcher is now engaged in something that cannot be precisely delineated, for here he is involved in “*that ineffable thing known as creative insight*” (as cited in Hycner 1999: 150–51). Clusters of themes are formed by grouping units of meaning together (Creswell 1998; King 1994; Moustakas 1994a) into significant topics, also called units of significance (Sadala and Adorno 2001). Both Holloway (1997) and Hycner (1999) emphasise the importance of the researcher going back to the recorded interview for clarification and validity.

As Groenewald (2004) points out, Coffey and Atkinson (1996) and King (1994) remark that many qualitative analyses can be supported by a number of computer software packages. However, “*there is no one software package that will do the analysis in itself*” (Coffey and



Atkinson 1996: 169), and the understanding of the meaning of the phenomena “*cannot be computerized because it is not an algorithmic process*” (Kelly 1955: 3). In other forms of qualitative research, software packages such as ATLAS.ti, NUD\*IST and the Ethnograph can be used to analyse text-based data (Kelly 1955), but these packages do not help with phenomenology.

#### **Step 4 Extracting general and unique themes and categories from all the interviews and making a composite summary of theory**

*Activity 3b on the Ladder* – once the process outlined in Steps 1 – 3 was completed, I looked “*for the themes common to most or all of the interviews as well as the individual variations*” (Hycner 1999: 154). In doing this, care was taken not to cluster common themes when significant differences exist. Unique or minority voices are important counterpoints to bring out in the researched phenomenon. As mentioned earlier, Coffey and Atkinson (1996: 139) emphasise that “*good research is not generated by rigorous data alone [but] ‘going beyond’ the data to develop ideas*”. Initial theorising, however small, is derived from the qualitative data and the next paragraph discusses the validity and truthfulness of the study.

The result of the extraction process is a set of theoretical notes that can be thought of as small interim themes and theory. The associations between these themes and their subsequent merging led to the creation of categories. The number of categories can grow rapidly. As the research progresses, new data may link to already developed categories, at which point these are accepted to ‘saturated’ (Groenewald 2004).

Theoretical saturation occurs when compared data consistently develops the same or similar categories or themes. When saturation was reached, I identified this category or theme to either be eliminated from the research or highlighted it as an important finding. In this phenomenology research it is not possible to find saturation within the data of one participant, unlike a biographical study, as between-subject comparison has not taken place (Glaser and Strauss 1967: 61-62). This supports the use of multiple participants within my holistic case study.

I then produced a composite summary to reflect the context, or ‘horizon’, from which themes emerged (Hycner 1999; Moustakas 1994b). I followed the guidelines of Coffey and Atkinson (1996: 139) who emphasise that “*good research is not generated by rigorous data alone ... [but] ‘going beyond’ the data to develop ideas*” (Groenewald 2004).

I understood that validity and truthfulness with respect to the findings and was an important issue in undertaking this research. Groenewald (2004) points out that Schurink and Poggenpoel (1998) emphasise the truth-value of qualitative research and list a number of means to achieve truth. In their study, the phenomenological research design contributed toward truth. I reminded myself continuously to understand, in terms of the perspectives of the participants that I interviewed, the phenomenon that I was studying. That is “*the focus [was] on an insider perspective*” (Mouton and Marais 1990: 70).

### **3.8 RESEARCHER POSITIONALITY**

#### **3.8.1 Qualitative research and the researcher**

With qualitative research, the researcher is a central part of the research, and I was aware that my bias could have an impact on the research. It is accepted that, as a qualitative researcher, my personal bias should be presented to enable readers to make informed judgements on the trustworthiness of the research.

#### **3.8.2 Theoretical sensitivity and researcher bias**

Strauss and Corbin (1990: 41) describe theoretical sensitivity as an awareness of the meanings being presented by participants. Glaser (1992) noted that everyone comes to research with some experience relevant to the area and this colours their ability to generate concepts from the data (Glaser 1992: 27). It was therefore important that I was sensitive to the participants, their data and its use. Creswell (1998: 76) points out that researchers should be transparent; that is, they should make their personal biases and values known to the readers.

As a research methodology, I was aware that phenomenology is value-laden and open to the possibility of research bias, because the researcher is also the instrument for the research (Creswell 1998: 76). Theoretical sensitivity is a vital personal quality, but may be affected by personal bias. For this reason also, researchers must openly make their personal biases and values known to the readers in reporting research findings. This action enables the reader to make an informed judgement of the work. This area is highlighted at this point to understand and deal with the issue. Whilst bias may always be an issue for the qualitative researcher, research techniques have been developed to reduce this possibility. One such technique of qualitative data gathering and reduced researcher bias is the repertory grid (Kelly 1955).

I entered this research with three experience biases:

- 1) a result of industry experience
- 2) a result of being the Project Manager and Consultant of a number of EU-funded technology projects, and
- 3) my experience in having previously implemented tourism technologies (MIS) into a number of Eastern Caribbean and South Pacific developing countries.

***1) Bias as a result of industry experience***

My practical experience within the tourism industry, and of the tourism technology sector, has spanned 25 years. I have designed and implemented tourism technologies in all parts of the tourism industry including tourist boards, airlines, hotels and travel agencies and tour operators in over thirty countries around the world. As such I was responsible for concept, design, development and implementation of many tourism technologies. My roles have included those of business systems/design manager, project manager and implementing consultant within tourism technology environments, and also as chief operating officer of a tourism technology IT development company. In my professional life I have worked not just as technologist but also as CEO of tour operating and travel agency groups, so I have been a user of many different tourism technologies myself. I have worked for private and public sector tourism organisations, large and small, and on projects for many aid donors including EU, UNDP, Commonwealth Secretariat, African Development Bank, JICA and DFID. I therefore have working experience of developing and implementing tourism technologies in a wide range of developing country situations.

As a result of my industry experience I hold these views (biases) about the industry:

- There is intense focus on achieving the budgeted result
- There is an intense focus on implementing systems within fixed timescales
- There are high performance expectations of recipients of funded projects by the donors
- There is a ‘one-size fits all’ approach to developing and implementing systems into multi-country locations
- There is little account taken of the differing needs of the recipients
- There is little account taken of the differing absorption and financial capacities of the recipients.

2) ***Bias as a result of being the Project Manager and Consultant of a number of EU-funded technology projects***

My role as project manager of the current EU-funded Tourism Technology programme within countries, including the seven researched, means that I am familiar with this specific research environment. It also means that I have a responsibility for ensuring that the new MIS is implemented in a satisfactory manner into 12 of the 15 Caribbean (CARIFORUM) countries including the seven research countries. I found this a significant challenge, as I had to be deeply involved in the practicalities of managing and completing the projects with both a professional and research relationship with the research countries.

3) ***Bias as a result of having implemented tourism technologies (MIS) into a number of Eastern Caribbean and South Pacific developing countries***

Bias as a result of having previous experience in having implemented tourism technologies into the Eastern Caribbean and South Pacific countries is a situation that had to be managed. Moreover, the subject of my research included a tourism technology on which I had previously worked. I found this to be a significant challenge as I had to be impartial and objective in the interview process, as in some cases the participants were reflecting on the very system that I had worked on. Also, my experience as a professional management consultant meant that my approach to research might be coloured by my consultancy methodologies and techniques of research geared to extracting work-based findings and solutions to business problems.

In discussion with my supervisors, it became apparent that my initial bias coloured how I approached this research and that a paradigm shift in my approach was required. I needed to undertake my research from an academic researcher viewpoint rather than a business improvement consultancy approach. I feel this bias was overcome, as can be seen in this Project Report.

**3.8.3 Researcher as the research instrument and how this affected data gathering**

Strauss and Corbin (1990: 44–45) acknowledge research bias and possible lack of objectivity and offer advice suggesting that researchers periodically step back and asks, ‘What is going on here? Does what I think I see fit the reality of the data?’ This enables them to maintain an

attitude of scepticism and objectivity. However at times, I found this more difficult to achieve in practice than in principle.

The ways in which a researcher, as the research instrument, can bring personal bias into the research was clearly demonstrated to me during one particular interview with a senior manager who aggressively challenged my role in a previous tourism technology implementation in his country, intimating that I was “*the cause and not the solution to his problems*”. I was taken aback by his criticisms, and felt uncomfortable as his ‘attack’ took me by surprise. In response, I expanded on this discussion with him and eventually he became more objective in his responses to my questions and indeed his experiences contributed greatly to my research.

Given time to reflect on this interview, the background experience of the participant partly explained his views. He became responsible for a technology, but was never fully trained and as result suffered bad criticism from his director when the technology did not produce the anticipated results. At that stage of my research, I was unaware how important this interview would become. However, towards the end of my data gathering I became aware that it had fundamental relevance to the research findings.

### **3.9 CHAPTER SUMMARY**

In this chapter I have explained my research process and the paradigm, and from that position reviewed qualitative and quantitative research methodologies. I identified and justified the use of case study and phenomenology. Trustworthiness of qualitative research was discussed, along with researcher bias and ethical considerations and how I gained access to the case study population. In the latter half of this chapter I explained how I gathered, managed and analysed the research data, given the quantity of material this qualitative research generated.

## **CHAPTER 4 - RESULTS**

### **4.1 INTRODUCTION**

This chapter presents the results from the research and the interviews. The results presented here focus on the phenomena that surround the shortcomings of IT implementation within the context of the proposed model of IT implementation used in developed countries, and the previous tourism technology implementations undertaken in the seven case study developing countries.

In particular, this chapter summarises the responses of the interviewees of the seven case study countries in terms of the catalysts and constraints to IT implementation, as well as the impact of implementing this technology as the NTOs sought to cope with the many demands this new technology brought upon them. From this research, new theory is generated and presented as a framework to improve the processes and practices used to develop and implement modern tourism information technologies (IT) in a developing country situation.

### **4.2 EXPLICATION OF THE DATA**

#### **4.2.1 Developing units of meaning**

From Stage 1 (summary of each interview) and Stage 2 (overviewing interviews), as set out in the previous chapter, I moved to Stage 3: developing units of meaning.

During open coding (Strauss and Corbin 1990) the number of codes grows quickly due to the large amount of data to analyse, and in the case of the first phase of analysis interviews produced 113 codes or 'units of meaning'. I allowed code development to run freely from the data while contrasting and comparing potential codes to those already developed. During this part of the explication I was also looking for themes. Results of this process are shown in Table 2.

#### **4.2.2 Forming themes**

Tables 3 (a-g) are amalgams of all developed units of meaning to form themes. The themes themselves point to shortcomings and in turn lead to possible solutions. Results of this

process (Steps 1–3a on the Ladder) are shown in Tables 3 (a–g), units of meaning relating to themes (Step 3b on the Ladder).

### 4.3 RESULTS OF THE RESEARCH

#### 4.3.1 User environment, theme 1 – Table 3a

Several NTO directors and IT managers identified the special characteristics of their own specific office environment as leading to a unique situation in which the IT managers and staff had to operate, so was not always understood by those who were developing and implementing systems into their offices. Several directors of tourism mentioned that their *“country was different to others”*, in that their cultures and operating practices made them a *“special case”*, and this was not always understood by the technologists who designed and implemented systems into their country.

As Minister V said during a discussion, *“now you can see how we are different to the other countries and you have to account for that”*.

The following comment from Director of Tourism A illustrates the complexity of the situation: *“...ours is a unique situation we have a responsibility to use these new technologies, yet as an organisation we are not always given the budgets and staff to take these on board”*.

Some managers deemed understanding and managing the expectations from aid-funded projects to be important, as some countries expected everything for nothing. Some held the view that getting ‘something for nothing’ was not always conducive to adoption, as the countries did not feel committed. For example, Director of Tourism B, from Country S, asked, *“Why should we be expected to buy the hardware and software? This should be paid for by the EU as part of the project”*.

Several of the interviewees referred to increasing levels of technology adoption among consumers and the travel industry private sector, but still relatively low levels of adoption among the NTOs, and some felt that they were struggling to keep up. Understanding the specific environment in which the tourism technology was to serve was consistently identified as an important factor in designing a technology that fits, and that the specific country could take on board, given its individual characteristics. In general, NTO representatives agreed that

this was a major shortcoming and a possible contributory cause for failure in previous implementations.

Several of the NTOs' own IT professionals agreed with the NTO directors that it would be time well spent to understand more about the country implementation environment, including financial and operating constraints, government policies, capacity constraints and so on, before developing systems and planning implementations. It would lead to a better 'fit' and more successful implementations.

IT Officer H, from Country G, said *"our need is special; the way we do things technically is different to the other countries. Your system needs to fit us, not the other way around."*

Several NTOs mentioned that they were under increasing pressure from their ministers and the private sector to expand their investments in IT, but they often did not understand the options and direction to go. Finally, NTO IT people themselves believed that a common system could be designed and then customised to suit individual environments, building in this flexibility at the design stage to achieve a better fit at the implementation stage. However, they were concerned that insufficient thought was given to understanding specific country needs and limitations.

#### **4.3.2 User limitations and constraints, theme 2 – Table 3b**

The participating NTOs are generally small in size, but nevertheless show considerable variation in dedicated IT staff numbers. They also differ in terms of the financial resources available to them for IT, so as Director H of Country G said, *"giving us a system that we can't afford to run is no good at all"*.

Considerable differences seem to exist in terms of IT investments; however, direct comparison is difficult, as NTOs seem to define IT investment in different ways. There was a strong consensus between the NTOs that the marketing and promotion of destinations constituted the primary role of their organisations, and spending money on technologies not directly related to this function was seen to be difficult.

Director B, from Country D, said *"most of our IT budget is focussed on our destination marketing web site development. After all, this is what we are here for – marketing the destination."*



This attitude was directly reflected in many of the NTO managers' and directors of tourism's perceptions of IT, which were mainly as a valuable tool to deliver information to the consumer. Some interviewees remained sceptical about the value of IT for supporting other NTO activities. Others expressed the view that the essential task in their tourism business was *"marketing and promotion"*, and that many IT applications could not provide what they wanted. As Minister Z, from Country D, put it *"I think that ultimately more of us will depend on technology, but at the moment implementing new systems is something that is not a priority for us as much as managing rising costs, managing increasing competition from other destinations, and also the fall-out from the global problems and our small budgets."*

Several of the NTO directors expressed concerns over the increasing amount of time their staff spends trying to *"figure out"* the technology, instead of focusing on their main role of destination marketing and product development. It was apparent in some of the smaller, less well-funded NTOs that quality of staffing was an important issue and presented limitations on the assimilation and integration of new technologies.

Overall, NTO managers seem to have rather mixed feelings toward IT. They see it as empowering their communication and market research, and greatly increasing their chance of being cost-effective in their marketing yet, at the same time, they fear for many of them IT is the great unknown. They blame financial constraints and staff limitations for not grasping and understanding new technologies. Only one of the directors, whose organisation is well-funded and adopted IT early on, displayed a very positive attitude toward IT: Director L from Country L said *"Technology is the only way forward in terms of a scientific approach to product and market planning, and of course the Internet is important to all the marketing activities in reaching the consumer and the trade. It's the way we do business today."*

#### **4.3.3 Implementing agency and meeting user needs, theme 3 – Table 3c**

All NTOs interviewed had been users of previous and current tourism technologies provided by the CTO, with and without EU funding. Generally it was felt to be important to the case study countries that the CTO was involved in the new technology development and implementation, as it was felt that it had experience in understanding the needs and limitations of its member countries, whereas the system developer would not. Director H, from Country G, said: *"It is important to us that CTO are behind this system."*

Many of these previous technologies were established between 1999 and 2002. At the time of their interviews, some NTOs were using the latest technology that was being implemented as

part of this current EU-funded programme, and some of them were still using a previous technology. However, whatever the technology in use, it was apparent that they relied on CTO and the system developers to train them.

Directors perceived this new technology as an important statistical and research tool but also had possibilities as a marketing tool although many of them did not fully understand how, and were not too sure how this met their needs. IT Manager M, from Country J, said *“I don’t think that our marketing people are ready yet to take this on board as a marketing tool.”*

In particular, participants believed that the provision of tourism technologies was important, although some could not fully understand the implications of their own inputs and finances. Some directors saw that it was their role to provide information services to the tourism community. It was felt by NTOs that these requirements should be clearly understood by the agency responsible for the design and implementation of the technology (CTO and the developers), to ensure that their needs were fully met.

The view was expressed on several occasions that the *“technology people”* in the NTOs did not fully understand the countries’ needs and limitations and the priorities given to them by their political masters. This caused the countries stress, trying to cope with new technologies and changing the priorities of their staff. Director P, from Country D, said, *“Our Minister wants us to use technologies, but does not prioritise the money for us to invest.”* As Director W, from Country K, said, *“I need a simple system. I am not a technical person and neither are my staff; the system should do what we want to do, not us have to change the way we do things.”*

Three NTOs amongst those interviewed tried to solve this problem by utilising a third party to provide a technical support service. However, this was not felt to be totally satisfactory as it discouraged NTO users from gaining a full understanding of the technology and taking ownership of it. Some turned to CTO for this support. Some NTOs said that they did not have the authority or the resources, either human or financial, to fully support the implementation as they should have liked, and that they lacked complete understanding of the requirements because of they were not involved in the planning, design and development of the system. Research Manager L, from Country L, said, *“We need more involvement up front at the development stage”*.

Some felt that, even when they were consulted, their views were not considered and the developers just went ahead and designed a general solution that did not easily fit their

requirements. *“We want much more consultation in future,”* said IT Manager H, from Country G, *“to ensure that any new technology fits with what we already do and meets our needs”*.

There was an overwhelming feeling amongst those interviewed that their own needs were *“different and specific”* to everyone else’s, and not enough notice of this was taken by the developers during development and, equally as importantly, during planning for training. *“Some developers come here and don’t train us; they just demonstrate their system and leave us holding the baby”*, said Director P, from Country D. *“They need more understanding of our specific training needs”*, said Manager T, from Country G.

In addition, managers expressed their reliance on CTO largely for IT support, when they were not technically equipped to do so themselves or because other industry partners were not ready to be involved in this interaction. In general, IT within NTOs seems to be concentrated in the area of Internet sites for marketing purposes and all NTO directors expect the importance of IT in this research and information management area to continue to grow. As Director H, from Country G, said, *“this is the way for the future of our business”*.

Although currently not as extensively supported by IT as marketing activities, greater use of IT was also anticipated for internal activities such as research and information management as a means for scientific marketing and market development. Again, the promotion of IT and its use was seen to be an important function of CTO, as the implementing agency.

The long development and implementation timelines for this project also demonstrate the often incremental steps taken by the NTOs, and challenge many of the ideals of revolutionary change. Overall, involvement of each individual country in every aspect of the design and development of tourism technologies intended for their use was seen to be essential if the technology was to be a success. A number of directors expressed the view that *“implementing new technologies is as much about understanding our needs and involving us as it is about clever designs and using latest software”*.

#### **4.3.4 Communications, theme 4 – Table 3d**

The issues of communications were commented on in three major areas:

- 1) listening to people and encouraging them to contribute to the development and implementation of new technologies

- 2) the importance of communications with the intended beneficiaries during every stage of the project lifecycle and
- 3) using technology to communicate with tourism partners.

A number of communication issues were identified as a result of the interviews. Importantly, the issues were generally significant, suggesting that in previous technology projects the NTOs did not feel that their views were listened to and that their input into the design of the technology was limited, leading to a feeling of lack of ownership. IT Officer H, from Country G, said, *“last time around I don’t see evidence in your system where you took notice of what we said we wanted”*.

It was also apparent from the interviews that some NTOs still use a low level of technology to communicate information to tourism partners. It appears that many NTOs lack the critical technology resources that would allow them to ‘leap forward’ and also that their approach to expanding their IT activities as an effective communications tool seems to be largely passive and reactionary rather than proactive. Using communications as a tool to involve the NTOs and encourage buy-in in the future was seen to be a significant issue expressed in the interviews. As Director F, from Country L, put it, *“if you don’t tell us what’s happening, how can we be involved?”*

However, most NTOs reported that their offices had expanded the range of information they produce as a result of using IT. One NTO reported that they *“used a previous technology to expand their communication and provision of information activities beyond their immediate offices to their overseas offices and industry partners”* (Director L, from Country L), but they did not see using technologies to communicate with the technology designers and CTO as important and appropriate during the design and development phases of the new system. Instead, they indicated that they were waiting for more guidance from CTO as to how they could develop their IT to this use.

Six of the NTOs mentioned that they hoped that the tourism technologies being provided would provide opportunities in the future for sharing information and communicating with other NTOs. Having new technologies were seen as enabling NTOs to be helping communications with tourism partners and thus building relationships: Director C, from Country T, said, *“I can see how this system will allow us to share our information with others”*.

The NTO directors also mentioned that IT use encouraged communications with entities that were not traditionally seen as key partners. For instance, most NTO directors indicated they had considered various ways in which they could communicate with their private sector partners and other government departments to maximise effectiveness of the data they produced.

#### **4.3.5 Human resource capabilities, theme 5 – Table 3e**

Throughout all interviews it was found that IT implementations affected three key areas: information and communications, human resources and financial resources.

The issues of human resources were commented on in a number of key areas:

- 1) some NTOs do not have the budgets to employ professional IT staff
- 2) directors find it hard to find good local IT staff, and
- 3) some IT staff do not see jobs in tourism as ‘high tech’ and therefore do not apply.

Importantly, the issues were in general significant, suggesting that in previous technology projects the NTO directors did not feel their views regarding the need for IT staff were listened to by their superiors and that the role of IT was not seen to be a priority in staffing budgets. Director W, from Country K, said that *“us having their own IT staff is not seen as important, but we keep asking for IT staff in our budgets”*.

It was also apparent from the interviews that some NTOs still use IT at a low level, reflected by the importance attached to recruiting professional IT staff. However, it was increasingly apparent from the interviews that there was growing awareness that the failure to recruit good IT staff contributed to the failure of some previous tourism technologies. As Director H, from Country A, put it, *“we really didn’t understand how to use the last MIS system that we had, and when our IT Officer left we had real problems”*.

NTOs differed greatly in terms of the effects of IT applications on human resources. While some indicated that IT led to overall cost reductions and increase in efficiency, others indicated that it resulted in increased costs. However, most NTOs indicated that they had increased their investment in IT staff. Throughout all interviews it was evident that human resources were considered key to IT implementations.

#### 4.3.6 Management and leadership, theme 6 – Table 3f

Throughout all interviews it was found that management and leadership in terms of achieving a successful IT implementation was held to be an important issue.

The view was expressed on several occasions that *“our management do not really understand the importance of our technology and do not give it the priority it requires”*. It was apparent from the interviews that this led to limitations in terms of resources allocated to IT. As Director P, from Country D, said, *“I am not a technical person and have to rely on my staff to use the technologies and tell me what they need”*.

It was clear to some NTOs that accepting donor-funded tourism technologies was only the start. As they started to use the technologies, they began to realise the importance of the technology to their research and management information functions, and discovered their need to understand the full scope and range of the technologies supplied. As a result of the tourism technologies implemented, several of the directors had begun to understand more about how these technologies could help them achieve their objectives in destination marketing and management. Minister Y, from Country D, said, *“I want my staff to understand and use these new technologies, this is the way of the future”*.

In general, the NTO directors said that IT had greatly improved their ability to achieve their objectives, but had created a challenge for them in learning how to handle not just the technology, but the new IT staff that they now needed to employ. As one Senior NTO Manager commented, *“I am not used to being in a situation where a junior staff member knows more than me.”*

A common response from NTOs was that, in the past, following the implementation of previous tourism technology, they had more questions than answers regarding the way their organisations should use the technology and how they could achieve maximum benefits. On many occasions the need for directors and managers to be more involved at the early stages of taking new technologies was mentioned. This uncertainty is shown in the following comment: Director H, from Country A, said, *“I don’t know what the next step is; we can produce numbers, but having the right staff to manage the technology from now on is another thing – however I guess the important thing is that we have started”*.

This quote strongly suggests uncertainty about the management and staffing requirements for the technologies supplied by aid donors, and points out that not enough effort or time was

spent in the early stages of the projects to allow an understanding and buy-in from all recipients, especially directors and senior managers. One director identified that taking a new technology presented him with a new management challenges: *“We’re being told that these technologies give us the ability to share information with our tourism partners in the region who are really also our competitors – I will seriously need to think about that, as to how much we share and who with, if we want to keep our competitive edge”*.

Generally, from a management perspective some of the interviewees stated that tourism technologies played an important role in the work of their NTO and gave them the opportunity to learn new management skills in dealing with technologies. However, previous implementations did not allow them the involvement from the beginning that they felt they needed to understand as much as they needed to know to manage and maximise the effectiveness of the new system.

#### **4.3.7 IT implementation and training, theme 7 – Table 3g**

The issues of training were commented on in a number of major areas:

- 1) not enough emphasis was placed on training on previous implementations, both awareness and operational
- 2) the importance of senior managers and directors understanding the need to invest in IT training for their staff, and
- 3) the difference between staff involving themselves in understanding the new IT and committing themselves to implementations.

A number of training issues were identified as a result of the interviews. Importantly, the issues were generally significant again, suggesting that in previous technology projects the NTOs did not feel that enough time and effort was given by the implementation teams to understanding individual countries’ training needs and delivering sufficient training to make the implementation a success. Director C, from Country T, said, *“this time around you need to spend at least a week training all our staff to use the system”*.

Some NTOs have reacted by creating new IT positions and by recruiting specialist IT staff. Others have had to find other solutions, including using existing staff. This brings with it a different and more challenging requirement from a training need. One NTO director explained: *“If you don’t have a large budget to recruit an IT or MIS expert, then you end up having to outsource, because [if] you can’t train your existing people then outsourcing is*

*your only option. Although outsourcing may not be a satisfactory option, at least you can pay from other budgets. If you recruit more staff then, your HR budget increases – which sometimes is not acceptable to the organisation”.*

Four of the NTOs took a major step in ensuring that they could contribute to the technology by allowing their IT staff to become involved with the development team in the development and testing of the prototype systems. Director H, from Country T, said *“I welcome our involvement from this early stage; it’s the right thing to do”*. This ensures that their IT staff trained on the job and acquired experience from the beginning. Additionally, two NTOs paid for their staff to be specifically trained in the software used to develop the new technology. Director L, from Country L, said, *“this time I want our staff to know more than just what you teach us about the technology”*.

Most NTO representatives interviewed agreed that the planning of the implementation should place more emphasis on training, both operational and awareness. This would allow more NTO staff and management to gain a better understanding of the tourism technology and its purpose.

#### **4.4 IT INITIATION AND IMPLEMENTATION – THE KEY STAGES**

The research results show many influences on the user environment and its capacity to absorb new technologies. It is essential these are understood by the development and implementing agencies. The relationships of organisation, staff and management capabilities, and the perceptions of the value and priority of the technology within the organisation, both play a key role in determining the degree of success experienced at implementation. Together, they influence the success of the implementation and sometimes dictate the direction of the evolutionary process of the IT implementation itself.

This study found that, for developing countries, new stages should be added to the initiation and implementation stages used for developed countries (see Chapter 2.4), that is; Stage 1: Initiation (establish need, provide solution, accept solution) and Stage 2: Implementation (customise/modify, install, train). Based on the research undertaken, the following is an outline of the recommended project lifecycle stages for developing and implementing tourism technologies in developing countries, including many new activities also used in the implementation of the EU-funded MIS Project.



#### **4.4.1 Initiation**

1. **Initiate** - Fact Finding and Introduction – determining the need, understanding the user environment, identifying limitations and constraints and barriers to success, assessing management and leadership capabilities on a national basis.
2. **Solution** - Design, Development and Testing – producing and agreeing a business specification, initiating a communications channel to keep users involved in development, setting up a three-level testing – developer testing, implementing agency testing and a user testing environment that includes the client organisation.
3. **Scoping** - Capacity Assessment – demonstration of system – agree customisation – training needs assessment – establish managers and leaders – establish ‘champions’ – establish human resource capabilities and identify shortcoming to be rectified before installation.

#### **4.4.2 Implementation**

4. **Customisation** – Pre-installation modifications as agreed at Stage 3 to meet client needs
5. **Installation** – install and train trainers
6. **Stabilisation** – Stabilisation and follow-up training
7. **Ownership**
  - final group training – workshop environment
  - hand-over and on-going support (maintenance)
  - form user group

### **4.5 IT IMPLEMENTATION AS AN EVOLVING PROCESS**

Set out below is an integrated description of the evolutionary process that characterises IT implementation in developing countries. This approach expands and builds upon the concept of the stages of technology implementation traditionally used in developed countries (Chapter 2.4). Besides confirming the importance of the original two stages (initiation and implementation) that include Establish Need, Provide Solution, Accept Solution Customise/

Modification, Install and Train, this study found new stages and expanded activities and focus that should be added to this process, as follows:

#### **4.5.1 Stage 1 – Initiate**

Although the initial reason for the adoption of the IT varies between participating NTOs, generally the director of each made the decision to initiate and adopt the proposed IT. The interviews show that there was no definite plan and strategy to promote the use of IT and in most cases there was only a vague understanding of the intended technology. Thus, the main reason for having the proposed technology was an overriding need for information on which to plan and monitor tourism marketing and promotional activity, and that it was proposed by CTO and paid for by the EU.

Based on the research undertaken, however, there needed to be a more focussed fact-finding investigation to identify not only the business requirement for the technology but to gain full understanding of the user environment, identifying limitations and constraints to success including staffing, financial and environmental issues. It was also needed to assess and define the capacity of management and leadership to take on board the proposed technology. This investigation should take the form of a feasibility study to assess the likelihood of success and finally recommend a positive or negative decision to go forward with implementation. Just because the EU donor provides the technology at no cost, it is no reason to go ahead if the absorption capacity of the country is not conducive to success.

#### **4.5.2 Stage 2 – Solution**

At this stage the NTOs have recognised that the proposed technology provides an important tool for gathering and dissemination information, but their understanding of what is intended is not yet defined. It is important now to initiate a communications channel with the potential users to keep them involved in all the stages of the design and development, including sight of a solution in the form of a business specification for comment, communicating progress and involving them in user system testing, all designed to encourage feedback and buy-in to the proposed technology solution.

#### **4.5.3 Stage 3 – Scoping**

The purpose of the scoping stage is to review where the country stands with respect to the implementation requirements for the solution. This includes hardware and software, training

needs, software customisation, operations and logistics, timescales and costs. It is also an opportunity to present the proposed solution to the users and discuss fully the implications, operating requirements and the options for customisation. This is the first and most important opportunity for achieving user buy-in and ownership.

This scoping and implementation planning is related to the current IT project and covered the following areas:

1. Establish and view current hardware, software and network configurations includes physical visit to intended operational locations
2. Establish and view other related tourism systems currently in use – that is tourism statistics, immigration, central statistics and so on.
3. Discuss and agree how the new system will be operationally organised within country
  - a. data input locations
  - b. data processing
  - c. reporting access and methods - dissemination - hard copy, electronic and/or user access via Internet
4. Establish current and future requirements to cater for any changes in:
  - a. organisation
  - b. data collection
  - c. use of additional technologies – i.e scanning
  - d. additional user requirement modules – marketing CRM
5. Establish the involvement of other departments with the MIS in addition to the NTO's
  - a. ministry of tourism
  - b. central statistics office
  - c. customs/immigration
  - d. private sector
6. Identify training needs, to include but not limited to:
  - a. data input
  - b. systems management/administration
  - c. reporting users
7. Discuss and agree essential customisation requirements
8. Discuss post-implementation maintenance and support
9. Discuss system implementation plan.

The objective of this stage is for everyone involved, including the 'clients', to fully understand the proposed operating environment so that the implementation team can make

recommendations to the country. These recommendations are to prepare for installation and for the development team to customise the system to ensure a best fit to the country's needs. This stage is so important that discussions and agreements should be documented for future use and to establish a clear agreed plan for implementation.

#### **4.5.4 Stage 4 – Customisation**

Evolving from Stage 3 is the technical customisation of the software to meet the specific needs of the user as specified and agreed at Stage 3, Scoping. Again, it is important to keep the users involved in all the stages of the customisation including sight of the changes made and in the testing of these changes and modifications. Again, this process should seek feedback and buy-in to the final technology solution.

#### **4.5.5 Stage 5 – Installation**

The physical installation of the system into the work environment is the real test, and should take a planned approach based on the scoping visit and the implementation plan that has been agreed with the country.

An installation should typically include the following; however details may change depending on the type/purpose/operation of the system. Below are the stages used in the installation of the MIS developed as part of this EU-funded project, however the principle can be adapted to fit other applications:

1. Meet with key stakeholders and participants to discuss the intended installation programme
2. Install and configure the hardware and install the software
3. Installation testing
4. Testing and monitoring data input and management process
5. Output testing (reporting, analysis and so on)
6. Training, typically to include:
  - awareness training – managers, directors and end users
  - technical training for system administration and management
  - database/content management
  - training for data collection/entry operation
  - report/output training for all users
  - training for fault reporting and management

7. completion and hand-over meeting with key stakeholders and participants to discuss ongoing support and upgrades.

#### **4.5.6 Stage 6 – Stabilisation**

Taking on new technologies comes at a price. At the same time as NTOs were experiencing the advantages of the previous 'new technology', they also quickly started to struggle with its side effects. The research showed some NTOs began experiencing negative effects related to management and control issues with past implementations, such as pressure on financial and human resources. At the same time, any issues with the technology such as bugs, faults and so on, identified a lack of training or lack of absorption capacity to manage the technology. At the same time, a feeling of abandonment began to surface as users felt that they had been left to their own devices without adequate support.

Whilst the technology within the NTO evolved, the organisational aspects of the NTO did not. Thus, the lack of development in organisational capacity pressured directors to learn more about the technology and the staff they needed to handle the growing amount of technical work. Indeed, some directors indicated that they spent all of their time and finances in staff training and replacement, and began to question their investment and the value of the technology. This research pointed to a need for a post installations stabilisation period when the NTO could be monitored, supported and nursed for a period of time until it had become proficient in using the technology and that any problems could be solved.

#### **4.5.7 Stage 7 – Ownership**

IT technology does more than change the way that tourism research and management information is collected and disseminated. The real impact of IT implementation is the facilitation of the new communications, creation of opportunities for collaboration and the development of new partnerships. Some NTO directors begin at this stage to realise that the value of IT goes beyond information provision and communication, and to think about how to use IT in order to do things differently.

This change in perspective comes about through the NTO taking ownership for the technology, and that comes from two important factors:

- 1) conviction that they can totally manage the technology, and
- 2) confidence that the information produced is accurate and worthy of sharing and acting on.

This research has shown that in NTOs where ownership was achieved in previous installations, there was more use and fewer problems than in NTOs that in the past did not take full ownership.

This research has shown that there were periods when some NTOs encountered unexpected events and incidents that slowed the implementation process down, at best, and in one case caused the NTO to abandon the technology. Reviewing the cases, it appeared that those issues often resulted from one of the following situations: unreliability of the system; slow adoption rate by staff; and lack of government support and personnel turnover. These factors significantly affected the implementation.

This research pointed to a need for a stage in the implementation process designed specifically to build confidence and conviction to take ownership.

#### **4.6 CHAPTER SUMMARY**

In this chapter I have explained how the research data was collected and the details of the explication process. From this position I explained how I reviewed the interviews, developed units of meaning and formed themes. The data arising from the themes led to identifying shortcomings that contributed to failure with previous implementations of aid-funded tourism technologies in the seven research countries.

In the latter half of this chapter, I explained how the research identified shortcomings in previous tourism IT implementations and how this led to developing solutions and an enhanced methodology for implementing this, and other IT technologies, into developing countries.

The methodology created from this research was used in the development and implementation of the EU-funded CRSTDP MIS Project (2005/2008) and is detailed as such in the EU Report (Phase 1 – Development, and Phase 2 – Implementation).

## **CHAPTER 5 - CONCLUSION OF THE STUDY**

An important goal of this study was to develop a framework based on the shortcomings identified in the previous implementation of tourism technologies in developing countries and to aid the implementation of the 2005/2008 EU-funded (EDF 8) CRSTDP MIS project.

The findings of the seven cases of Caribbean NTOs identify the importance of accepting that there is a dynamic interaction between financial resources, human resources and the capacity of the NTO, and how these affect IT implementations in tourism organisations. Indeed, the results of this study identify that, when NTOs adopt new technologies, both the organisation and the technology are transformed. IT provides new ways to develop and disseminate information and facilitates information related activities and, as a result, strengthens the NTOs. Increased capabilities, in turn, help NTOs adapt to new technology to better fit their objectives and roles.

However, the results of the case studies also show that such positive implementation effects are frequently not realised due to lack of resources and understanding of the technology itself. The research indicates that the need to implement IT often emerges from external factors rather than internal visions of how IT can help the NTO succeed. If IT is implemented without the necessary organisational capabilities and capacity in place, the implementation can fail and as a result it can actually have a detrimental effect on the NTO and its will to use technology in the future. Although the case studies indicated that such outcomes are typically overcome by NTOs, they could very easily lead to serious disruption or stagnation in the future of IT implementations. Effective leadership on adopting the technology is a clear focus of the NTOs role, both present and future, and understanding of how technology fits and how best practice NTOs work in the developed world seem to be crucial in avoiding such situations.

In practical terms, this research and its findings led to the creation of the 9-stage IT implementation model was used to implement the current EU-funded CRSTDP MIS Project, as follows:

1. fact-finding and introduction
2. design, development and testing
3. scoping - capacity assessment – demo system – agree customisation
4. pre-installation customisation
5. installation and training

6. stabilisation and further training
7. final group training in workshop environment
8. hand-over and on-going maintenance
9. form user group.

The final three stages, 7, 8 and 9, were combined under a general heading termed Stage 7 Ownership, as their purpose was to develop a sense of ownership of the MIS to the NTOs. This is detailed in the EU Projects Reports (Phase 1 – Development, and Phase 2 – Implementation).

This study has several limitations. First, it interviewed the current holders of the positions in NTOs, some of whom were not in post for the complete project lifecycle of previous implementations, so in some cases the experience of a particular individual or NTO director was based upon an incomplete perspective. Second, historical case studies might not accurately reflect events because it is difficult to determine cause and effect from recalled events. Interviewees might have forgotten important events or considered them unimportant.

Despite some limitations, the results of this project offer both methodological and practical contributions to developing and implementing tourism technologies into developing countries. The development and implementation framework proposed here (Table 4) enables a project manager or aid donor to examine both subjective and objective aspects of IT implementation in the context of the proposed developing country beneficiary, and allocates sufficient funds, skills and project timeframe to complete the project.

The proposed project framework sets out the importance of looking at the needs of each individual proposed beneficiary organisation in terms of absorption capacity (management, staff, financial and technology levels) before a decision is made on the implementation strategy.

This study also draws attention to the evolutionary nature of IT implementations and the significance of past implementation results for planning future IT implementations. The practical implications that can be derived from this project centre around four important factors:

- 1) understanding the user environment in terms of absorption capacity
- 2) understanding the human resource development requirements in terms of all users, both operational and management



- 3) creating a project lifecycle communications medium to encourage and development partnerships
- 4) developing an understanding that IT is an evolutionary, ongoing process which requires continuous investment and attention rather than a 'one hit' solution, and
- 5) facilitating ownership of the system by the developing country, as the beneficiary.

This study shows that willingness to support human resources development in terms of skills and management is the key to success in all IT implementations. Problems and obstacles are common in implementing new technologies, and directors and managers should be warned to expect setbacks and be taught to overcome them, adopting a style of leadership that focuses on an increase in effort and commitment and recognises a need for additional training. The implementation team's creation of this 'can do' culture within an NTO during the project lifecycle would greatly enhance the NTOs ability to respond to changes, whether these are new technological developments or changes in culture and management style.

A more proactive approach to change became apparent, than appeared to be evident during previous implementations. Fully benefiting from the positive effects from IT implementation becomes even more important, as competition grows between destinations for tourist revenue. Two of the most important issues that Caribbean NTOs face as IT and the global marketplace evolve relate to their ability to collaborate and to change. It is clear that IT not only enables global reach in terms of marketing tourism products, but also facilitates the research and management of tourism information, key to the placing the right tourism product, in the right place, at the right price to meet market needs.

However, the reality is that IT on its own does not automatically level the playing field. The real challenge NTOs face is to take on board new technologies and adapt their organisation's capabilities to adapt and customise, and to modify the tourism technology IT to suit their own requirements. The NTOs must learn to change in order to maximise the benefit of using IT and transform the information produced into knowledge and action.

Thus, it is vital that the development and implementation agency of new tourism technologies understands that, as well as producing a technical solution; it is also their role to enhance an NTO's capability to change. This enables them successfully to incorporate new technologies into the fabric of their organisations. Successful change for NTOs is not only supporting current activities with IT, but also using IT to strengthen and develop new activities and develop new competencies.

At the completion of explication, the composite summary was produced that reflected the context from which the themes emerged (Hycner 1999; Moustakas 1994b). As Sadala and Adorno (2001) observe (Groenewald 2004), the researcher at this point “*transforms participants’ everyday expressions into expressions appropriate to the scientific discourse supporting the research*”. Again, Groenewald (2004) points out that “*good research is not generated by rigorous data alone but going beyond the data to develop ideas*”. Validity and truthfulness of the research is also an important factor to be considered.

a) *Validity and truthfulness*

Schurink, Schurink and Poggenpoel (1998) emphasise the truth-value of qualitative research and list a number of means to achieve truth. In this study, the phenomenological research design contributed toward truth. I bracketed myself consciously in order to understand, in terms of the perspectives of the participants interviewed, the phenomenon that I was studying. My focus was on “*the insider perspective*” (Mouton and Marais 1990). I consciously recorded data from the interviews that reflected the interviewees’ perspectives regarding the phenomenon that I was studying.

b) *Composite summary of the research findings*

A wide spectrum of perspectives was found regarding the phenomenon of the reasons for failure of previous implementations of aid funded tourism technologies in the seven developing countries in the Caribbean.

Among others, an important factor was the developer and implementing agency not totally understanding the background of the developing country and the potential user environment. Associated with this was the importance of understanding the needs and limitations at the national level in the developing countries. The interviewees stressed the importance of needing to understand the individual requirements of each country by the developer/implementation agency, and its previous absence, on many occasions.

The lack of communication throughout the project lifecycle was further perceived as an important issue contributing to failure. Also, there was a perception that the shortage of qualified staff in the developing country’s NTO was a real factor behind it, as deficiencies in this area were seen as being partly responsible.

The constraints of proper management and leadership experienced in some developing countries during implementation formed another important perspective. Associated was the level of commitment by some NTOs and the capacity to devote managerial time and resources. Difficulty was experienced in finding suitable experiential managers who understood and were experienced in using modern technologies, so some staff had problems over the proper management of the new tourism technologies.

The composite summary above only reflects the themes common to most or all of the interviews undertaken. However, individual variations or unique themes (Hycner 1999) are just as important to the phenomena researched.

In conclusion, the immediate benefits from this DProf project can be evidenced and are reported as such in the formal EU MIS Report MIS Development and Implementation 2005–2008 (delivered to the University Assessment Board as part of the evidence of success for this DProf project), and are as follows:

1. *The activities specified in the terms of reference for the EU-funded CRSTDP (2005–2008) MIS project were completed and exceeded* (MIS Report Phase 2, page 9).
2. It was also reported in that document that a “*methodology for the MIS Implementation was developed particularly for this project EU project by the IT Advisor, based on the researched needs and requirements, and identified during the fact-finding and also during ongoing research undertaken during the project lifecycle.*” (MIS Report Phase 2, page 9).
3. The research and data analysis from this DProf project research was used to create the methodology used in the EU MIS Project, and is as described in the MIS Reports, Development (Phase 1) and Implementation (Phase 2).
4. Also as reported in the EU Report, a further benefit arising from this DProf project is that this approach developed can be modified and used for future tourism IT implementations. The methodology for the MIS Development (Phase 1) and the MIS Implementation (Phase 2) for this project was produced from the nine stages developed in the DProf research and then combined into seven linked and evolving project stages (MIS Report Phase, page 28).

Thus from this Final EU MIS Project Report, Phase 2 Implementation, and the Final Report, Phase 1 Development, it can be seen that this EU Project met and greatly exceeded the issued Terms of Reference and met its objectives:

- To expand the range and improve the quality of critical information available to Caribbean decision makers and planners, both private and public sector.
- To improve the various information systems necessary to advance the tourism management and development process.

Furthermore, as stated in Section 1.3.1 of this document, the terms of reference for this EU Project were to “*develop a Regional Tourism Management Information System (MIS) and to implement into requesting CARIFORUM countries*”. Given the timeframes, this was initially estimated to be a maximum of five countries.

The evidence of success for the Methodology Framework Model, developed as part of the DProf project, is that it is currently being used in the Caribbean by CTO (see Appendix 4 – evidence of success, CTO letter dated 20 November 2008).

Also, the MIS system developed and implemented using the methodology produced as part of this DProf project has been successfully implemented into twelve sites, including six of the seven case study countries. As evidence of success, each participating country was required to complete a CTOMIST Installation Country ‘System Sign-Off’ document, accepting and signifying successful installation and completion of the MIS implementation (see Appendix 3, example of Sign off Document). The originals of the completed sign off documents for each of the twelve sites were presented to the University Assessment Board as evidence of success, and copies are also contained in the Formal Final EU MIS Project Report, Phase 2 – Implementation, Appendix 4, Installation Missions, dated May 2008 onwards), also presented to the University Assessment Board. The sign off documents contain sensitive confidential information so they have not been reproduced here, however a schedule setting out selected detail from them is shown as Appendix 3 of this document.

A number of other CTO member countries, including the remaining case study country, St Kitts and Nevis, have requested installation, or are already in the process of implementation of the MIS. Indeed, following the pilot implementation in St Lucia the research manager responsible for the MIST Programme in St Lucia wrote to CTO as follow: “*I can safely say that the new MIST has fulfilled the list [of] set objectives put forward by not only St. Lucia but other member countries.*”

Finally, in addition to the above, and in terms of the other objectives and criteria set for the project, all of the installed countries are recognised as developing countries. The methodology is transportable to other IT sectors and situations. The research and data analysis from this DProf project research was used to create the methodology used in the EU MIS Project, and is described in detail in the official EU MIS Reports, Development (Phase 1) and Implementation (Phase 2), both of which the EU have accepted as project completion reports. The guidelines publication, *Identifying best practice guidelines in implementing tourism technologies in developing countries*, is included as Appendix 1 to this document.

In conclusion, it is suggested that this DProf Project has met its objectives as set out in Section 1.5 of this document, *Aims and Objectives of the DProf Project*, by:

1. addressing the research theme
2. framing the research within the current body of knowledge
3. developing new theory and extending from the research of 'old theory'
4. being based on the literature research set out in Chapter 2 of this document, this project has contributed to the body of knowledge as an extension to existing theory
5. having practical value in its use to a wider audience.

In terms of deliverables, the following are evidenced:

- i. a framework and new method was piloted, integrated and used in the current EU project
- ii. the methodology is transportable
- iii. the methodology is being used by the Caribbean Tourism Organisation (CTO)
- iv. guidelines were produced in a format for future publication
- v. this DProf Project Report.

As a deliverable for the EU project, the MIS was developed, implemented and is currently working in twelve sites and, as stated in the formal EU Report, the terms of reference for the project were exceeded.

CTO recognised the importance of completing all of the stages for this project for all twelve participating CARIFORUM countries and achieving sustainability for the MIS, therefore extended the IT advisor's contract and supplied project funding from its own funds to complete the last few stages of the MIS implementation.

From the study undertaken, it is evidenced that the successful implementation of new tourism technologies and getting it right first time are important factors in growing a tourism industry in a developing country.

## **CHAPTER 6 - TABLES, APPENDICES AND REFERENCES**

TABLE 1        The Ladder of Analytical Abstraction (Carney 1990)

TABLE 2        Stage 3 Developing Units of Meaning

TABLE 3 (a-g) Stage 4 Merging Units of Meaning to Form Themes

TABLE 4        Recommended Methodology

APPENDIX 1    Implementation Guidelines for Publication to Key Stakeholders:  
                         Identifying Best Practice Guidelines in Implementing Tourism Technologies  
                         in Developing Countries





APPENDIX 2    MIS Country Acceptance Sign Off Document

APPENDIX 3    Schedule of MIS Countries

APPENDIX 4    Evidence of Success – CTO letter dated 20 November 2008

**TABLE 1 THE LADDER OF ANALYTICAL ABSTRACTION**

**Levels**

		3b	Delineating the deep structure	
			<i>Synthesis: integrating the data into one explanatory framework.</i>	
3.	Developing and testing propositions to construct an explanatory framework			
		3a	Testing hypotheses and reducing the bulk of the data for analysis of trends	
			<i>Cross-checking tentative findings</i> <i>Matrix analysis of major themes in data.</i>	
2.	Repackaging and aggregating the data			
			Identifying themes and trends in the data overall	
			<i>Searching for relationships within the data</i>	
			<i>Writing analytical memos</i>	
			<i>Identifying where the emphases and gaps in the data</i>	
				
1.	Summarising	1b	Testing coding categories to find a set that fits and packaging	
			<i>Coding data and writing analytical notes on linkages to various frameworks of interpretation</i>	
				
		1a	Creating a text to work on	
			<i>Reconstruction of interview notes as written notes</i> <i>Synopses of individual interviews</i>	

(Carney, in Miles and Huberman 1994b: 92)



**TABLE 2****Stage 3 - Developing Units of Meaning**

<b>Open Code Number</b>	<b>Units of Meaning</b>	<b>Description</b>
1	Country specific issues	Factors that is specific to some countries only.
2	Recognising that the implementation had shortcomings	The frustration that some interviewees, especially managers, experience in not being able to having time to deal positively with and acknowledge failure to deal with technology.
3	Available skills	The view that there is no in-house staff to work with the new technologies.
4	Organisation not being responsive	Depending on the nature of the organisation makes a difference when the organisation recognises issues and responds.
5	Limitations in senior managers' understanding the importance of technology	Where senior managers see the importance of adopting technologies it is beneficial to achieving successful implementations.
6	Benefits of full-time internal technology staff	Where a manager feels that full-time technology staff are beneficial, for example in supporting the non-technical with training and so on.
7	Between departments movement of staff	When employees move between departments/ministries taking their experience of the technologies with them – and there is no prescribed hand-over.
8	Building relationships	How NTO managers try to manage the implementations by building relationships with the technologists.
9	Business demands	Where the business demands that NTO staff react to changing priorities, and that which is not understood (IT) takes a low priority.
10	Career opportunities	Where IT managers and staff see opportunities for using implementations as a means to move on to new jobs.
11	Challenges IT managers face	Some of the issues that managers have to deal with and could be frustrating for them.
12	Skilled staff positions in NTOs	The types of positions in NTOs are traditionally non-IT.
13	Commitment to a career in the tourism industry	Some IT staff and managers see NTOs as a career and make a definite commitment to the job and industry.
14	Communications	Managers see that effective communication is important as part of the implementation and the working relationship with the implementing agency.
15	Confident IT senior managers	Senior managers who demonstrate great confidence in their IT knowledge and project the importance of IT use and ability.

16	User involvement	Importance of involving potential users during the design stage of the technology.
17	Progress and communications	Communicating development progress with the user is important.
18	Cultural differences that affect implementations	Where the different cultures mean implementations have to be managed differently.
19	Cultural similarities	Highlights countries that have similar cultures where a standard implementation plan can work.
20	Encourage involvement	Technology designers should actively encourage user involvement in design and testing.
21	Different user requirements	All users are different and require different training, management and so on.
22	Disadvantage of using external resources	Where users feel that there is a challenge in their using external IT resources.
23	Education and industry mismatch	Issues that NTOs have with education not providing appropriate tourism technology experience and role in today's tourism world.
24	Employee retention issues	The various frustrations of NTOs and IT managers regarding training and retaining staff.
25	Staff turnover issues	Managers' view that staff turnover is normal, but the pool of suitable replacements in small countries is very limited.
26	NTO employees' view on external resources	NTO employees are aware that the using external IT resources mean less priority for them to learn the technology.
27	Government regulations in NTOs' use of external IT resources	Where governments place restrictions of the use of external resources.
28	Factors IT managers cannot control	Some of the areas that managers do not have control over, for example finances, recruitment and so on.
29	Future issues for the tourism industry	Senior managers' views on the future technology issues of the tourism industry globally.
30	Use of central government IT	NTO managers and employees are aware that the using government IT units is sometimes not suitable for their purposes in terms of resources, support and priorities.
31	Getting the right staff	Being clear about what managers will do to ensure that they get the right staff to work in their IT and research departments.
32	Hard to find staff	Some managers are challenged to find good IT staff – and at times, any staff.
33	Lack of vision	Some managers are challenged to understand where tourism and technology are going and to give the implementation of new technologies sufficient priority.
34	Lack of understanding the role of IT	Some managers are challenged to understand the full role of IT in tourism and therefore limit its use and priority and carry on in the 'same old ways'.

35	How IT managers view senior management	Quite frequent frustration at their senior management, for example not assisting supporting increased IT training and so on.
36	Tourism technology is not a career	The view (by some NTO managers) that tourism technology is not seen as a career – some of their IT staff use it to only get experience and then move on to other IT jobs outside tourism where salaries are higher.
37	How NTO managers view IT staff	How NTO managers see their IT staff and are often frustrated, themselves, at their lack of understanding of the work that their IT staff do.
38	Industry has grown	Where NTO managers highlight that the industry has grown and that this may affect the availability of suitable experienced IT staff.
39	Industry image	The image that the tourism industry projects to potential staff.
40	Influencing staff	Where a manager believes that by their own approach and actions they influence others.
41	International IT	Where there is a noticeable difference in the way international/returning nationals and so on behave in the workplace, plus where their IT experience and attitude is different from that of the locals.
42	Commitment versus Involvement	There appears to be a real need for a full NTO commitment (not just involvement) to encourage participation during design, development and testing of new technologies between developer and beneficiary.
43	IT is personal	For some IT managers, the job and the IT people are personal and keep their role and working practices 'secret'.
44	Job recognition	Some IT managers and staff feel that the importance of their role is not appreciated and understood by senior managers and make allowances for this in terms of recognition.
45	Job security	Where employees are looking for a secure job – not a part-time IT role.
46	Lifestyle	Some senior NTO managers' perception of the tourism industry as a 24/7/365 business and is a lifestyle you adopt.
47	Listening to people	As part of building relationships between the developer and the user listening to potential user staff appears a key factor, hearing their views, aims, problems and so on is important to getting tourism technologies and their implementation right.
48	Location affects IT staff recruitment.	The location of the NTO can affect the recruitment of good IT staff that is more developed countries are seen to be an attraction for good IT staff.

49	Looking after people	Some senior managers see that the all staff (including IT people) working for them are very important and that they need looking after.
50	Looking for solutions	A cry for help. Managers responsible for IT want solutions to the issues with regards IT but sometimes are left on their own to find them.
51	Love of the job	Where IT managers have a real love for the job and would not want to move.
52	Skill positions	Some NTO managers believe that managers and staff responsible for IT are of low importance and it is an easy job for people to start in.
53	Management bonding	In some NTOs, managers often get together as mutual support.
54	Management style changes	When a manager has had to adjust their management style due to being responsible for different roles (IT and so on) or comes from a different country and how that affects employees.
55	IT managers are key staff	Some senior NTO managers see that IT managers and staff are key.
56	IT persons are transient	IT managers and staff are often regarded as transient within and external to the industry.
57	IT managers being supported	Situations where the NTO supports IT managers in different ways that enables manager to get on with their job.
58	IT managers' experience in the industry	IT managers have varied experience in the industry – some very new and some a few years.
59	NTO managers' perception of the IT workforce	How NTO managers see the workforce that they have to manage.
60	NTO managers' personal characteristics	What all managers see as the positive characteristics of other managers – what makes them successful?
61	Management style	Managers take different views on management style and take different actions regarding managing their staff, leading to different attitudes and outcomes of their IT implementations.
62	NTO manager vs IT manager	Where an NTO manager has a different view on how things should be done compared to the IT manager.
63	IT manager wanting recognition	Some IT managers want recognition for the job that they do, they believe that they work hard and it is often not noticed.
64	Mistrust of IT managers	Senior NTO managers do not always trust the views of their IT staff through lack of understanding, and believe that their IT staff is trying to persuade them to spend money.
65	Managing IT staff	How senior managers try to manage IT staff in various ways.
66	Managing costs	Senior NTO managers see the need to manage costs and are not always sure that IT staff appreciate this.
67	Managing the training needs of IT staff.	It appears that this is an important factor for senior managers some do not understand the relevance and importance of training to IT staff.

68	Managing staff turnover issues	Strategies that managers have in place to manage any turnover issues, for example fall-back, back-up and IT training and so on.
69	Mix of experience	At times, NTOs' IT staff come from varying backgrounds, from no IT experience – or self taught - to professionally qualified and experienced.
70	Motivating staff	How senior managers motivate all staff, in particular IT staff.
71	Senior government views impact on IT	The published views of ministers, prime ministers and high government officials often impact on how IT managers and staff see the importance (or lack of) and relevance of their job.
72	Passion for the industry	IT people who are really excited about working in the tourism industry and are well dealt with by their seniors are passionate about the job.
73	People need managing	The view that people need managing, people have to know what the rules are.
74	Perception of the IT workforce	How NTO managers personally view their IT workforce, for example how important IT is to them.
75	Perception of the job	How IT people (managers and employees) perceive jobs in tourism.
76	Personal management style	Where the style of management is very personal to the NTO.
77	Pride in a team	Where a manager is proud of their team and takes great pride in what they do.
78	Qualified staff	Where NTO managers find it difficult to get qualified IT staff – and how this affects the implementation and operation of their technologies.
79	Recognition for the work involved	That some senior managers recognise NTO work is different to managing in other sectors
80	Reducing turnover	Strategies that some senior managers have developed to reduce employee turnover, for example making people feel comfortable at work, respecting employees and so on.
81	Relationship to other industries	How some IT managers feel the tourism industry is different to other industries?
82	Retention issues	Some senior managers see retention possibilities but may not be able to do anything about it.
83	It is all about people	Senior NTO managers see that successful and unsuccessful technology implementations are dependent on the quality of the people, both IT and other NTO users.
84	Senior managements' perspective of the IT workforce	How senior NTO managers perceive their IT workforce and how they indirectly manage them.
85	Senior managers' view on IT managers	What senior managers think IT managers should be doing and how they should be acting.

86	Setting expectations for NTO IT teams	Where senior NTO managers are very clear on the expectations that they have of their IT team and what they need to do to make it happen.
87	Some IT managers achieve more than others	Senior managers' had views on why some IT managers achieve better implementation results than others.
88	IT staff attitude	When managers notice a positive or negative attitude from IT staff.
89	More training	Views on the importance of more and more training being the key to successful implementation.
90	Staff working the rules	When staff uses the systems as their excuse to not work for example sick days, need for frequent breaks, not paying attention at training.
91	Training standards	The training standards that an NTO wants are by developers using professional trainers not developers giving a demonstration as frequently happens.
92	Stress on NTO managers	NTO managers are placed under stress in undertaking their job – self-imposed or ministerial imposed. They are not IT people and for them IT is a tool that should work when it is delivered.
93	System design	NTO managers want a simple system to operate not a technical System. They are not a technical organisation and do not want the high internal cost of running an IT department
94	Systems within the tourism industry	Systems should answer the NTOs' needs not have to change needs to adapt to a system.
95	The reasons for having IT managers	Why some NTO managers believe they need IT managers.
96	Transient IT staff	NTO managers believe IT staff are transient and come and go and have no loyalty.
97	Ongoing help	Some NTO believe that previous technologies have not been well supported through and after implementation.
98	Standardisation	Some senior NTO have in the past felt that they have been given a 'one-size fits all' solution that did nothing for them.
99	Understanding individual staff	Some NTO managers are trying to understand individual staff and their work so that they can get the best out of them – IT is sometimes a challenge in this respect.
100	Abandoned	Some NTOs feel that in previous installations that they had a technology dumped on them and then no further help was forthcoming from the supplier.
101	What NTO managers want from technologies	NTO managers want their needs taken into account when a technology is designed.
102	What staff think of IT managers	What non-IT user staff think about them is important to the acceptance of the technology.

103	NTOs don't know what they want	Some IT managers think that their senior NTO managers don't know what they want from technology.
104	Why NTOs don't use technologies.	The various reasons why some NTO staff do not use or stop using technologies – e.g. difficult to use, inaccurate, too many bugs, no qualified IT staff to manage the system and so on.
105	Aid culture	Reasons why some managers believe that getting something for free is not good – some think better to contribute something financially and get what you want.
106	Involvement versus time	Managers' view that NTOs should be fully involved but agree that developing technologies is time critical as needs constantly change
107	Different levels of understanding	Due to different levels of IT understanding, some NTOs expressed difficulties in understanding questions asked by developers and their implications
108	Capacity issues	Some NTOs expressed doubts that they had the capacity to take on board some more complex technologies.
109	Implementation stages	Some NTOs expressed doubts that the implementation stages were appropriate to all countries, as some required different treatment, e.g. more time, more training, more customisation.
110	Financial issues	Some NTOs expressed doubts that they had the finances to pay their own way even for small investments.
111	Special treatment	Some NTOs mentioned the issues of requiring special treatment due to their lack of capacity.
112	Testing	Some NTOs expressed concern that not enough testing had been carried out previously, leading to problems at installation.
113	Financial constraints	Some NTOs express a view that not enough money was available to help the less wealthy countries.
114	Timing	Some NTOs expressed the view that implementation timing was not good as they had other priorities.

**TABLE 3 (a-g) - Stage 4 - Merging Units of Meaning to Form Themes**

These tables (3a-g) are an amalgam of all developed units of meaning to form themes. The themes themselves point to shortcomings and provide guidelines to solutions

**Table 3a - Theme 1: The importance of understanding the background of the potential user environment i.e. the developing countries****Units of meaning relating to the theme**

<b>Open Code Number</b>	<b>Units of Meaning</b>	<b>Description</b>
1	Country specific issue	Factors that is specific to some countries only.
2	Recognising that the implementation had shortcomings	The frustration that some interviewees especially managers experience in not being able to having time to positively deal with and acknowledge failure to deal with technology.
19	Cultural similarities	Highlights countries that have similar cultures where a standard implementation plan can work.
27	Government regulations in NTOs use of external IT resources.	Where governments place restrictions of the use of external resources.
28	Factors IT managers cannot control	Some of the areas that managers do not have control over, for example finances, recruitment and so on.
29	Future issues for the tourism industry	Senior managers' views on the future technology issues of the industry globally.
30	Use of government central IT	NTO managers and employees are aware that the use of using government IT units sometimes is not suitable for their purposes in terms of resources, support and priorities.
35	How IT managers view senior management	Quite often in terms of frustration at their senior management, for example not assisting supporting increased IT training and so on.
43	IT is personal	For some IT managers, the job and the IT people are very personal and keep their role and working practices 'secret'.
61	Management style	Managers take different views on management style and different actions regarding managing their staff, leading to different attitudes and outcomes of their IT implementations.
69	Mix of experience	At times NTOs IT staff come from varying backgrounds, from no IT experience, or self taught, to professionally qualified and experienced staff.
105	Aid culture	Reasons why some managers believe that getting something for free is not good – some think better to contribute something financially and get what you want.
108	Capacity issues	Some NTOs expressed doubts that they had the capacity to take on board some more complex technologies.



110	Financial issues	Some NTOs expressed doubts that they had the finances to pay their own way even for small investments.
111	Special treatment	Some NTOs mentioned the issues of requiring special treatment due to their lack of capacity.
113	Financial constraints	Some NTOs expressed a view that not enough money was available to help the less wealthy countries.

**Table 3b - Theme 2: The importance of understanding needs and limitations at the national level in the developing countries**

**Units of meaning relating to the theme**

<b>Open Code Number</b>	<b>Units of Meaning</b>	<b>Description</b>
9	Business demands	Where the business demands that NTO staff react to changing priorities and that which is not understood (IT) takes a low priority.
18	Cultural difference that affect implementations	Where the different cultures mean that implementers have to manage the implementations differently.
21	Different user requirements	All users are different and require different training, management and so on.
22	Disadvantage of using external resources	Where users feel that there is a challenge in their using external IT resources.
48	Location affects IT staff recruitment	The location of the NTO can affect the recruitment of good IT staff, that is more developed countries are seen to be an attraction for good IT staff.
50	Looking for solutions	A cry for help. Managers responsible for IT want solutions to the issues with regards IT but sometimes are left on their own to find them.
58	IT managers' experience in the industry	IT managers have varied experience in the industry – some very new and some a few years.
68	Managing staff turnover issues	Strategies that managers have in place to manage any turnover issues, for example fall-back, back-up, IT training and so on.
76	Personal management style	Where the style of management is very personal to the NTO.
78	Qualified staff	Where managers find it difficult to get qualified IT staff – and how this affects the implementation and operation of their technologies.
80	Reducing turnover	Strategies that some senior managers have developed to reduce employee turnover, for example making people feel comfortable at work, respecting employees and so on.
84	Senior management perspective of the IT workforce	How senior NTO managers perceive their IT workforce and how they indirectly manage them.
114	Timing	Some NTOs expressed the view that implementation timing was not good, as they had other priorities

**Table 3c - Theme 3: The importance of need to understand the requirements by the developer/implementation agency, in this case CTO**

**Units of meaning relating to the theme**

<b>Open Code Number</b>	<b>Units of Meaning</b>	<b>Description</b>
91	Training standards	The training standards that an NTO wants are by developers using professional trainers, not developers giving a demonstration, as frequently happens.
92	Stress on NTO managers	NTO managers are placed under stress in undertaking their job – self-imposed or ministerial imposed. They are not IT people and for them IT is a tool that should work when it is delivered.
93	System design	NTO managers want a simple system to operate not a technical system. They are not a technical organisation and do not want the high internal cost of running an IT department.
94	Systems within the tourism industry	Systems should answer the NTOs' needs, not have to change needs to adapt to a system.
97	Ongoing help	Some NTO believe that previous technologies have not been well supported through and after implementation.
98	Standardisation	Some senior NTOs have in the past felt that they have been given a 'one-size fits all' solution that did nothing for them.
100	Abandoned	Some NTOs feel that in previous installations that they had a technology dumped on them and then no further help was forthcoming from the supplier.
101	What NTO managers want from technologies	NTO managers want their needs taken into account when a technology is designed.
104	Why NTOs don't use technologies.	The various reasons why some NTO staff do not use or stop using technologies – e.g. difficult to use, inaccurate, too many bugs, no qualified IT staff to manage the system and so on.
106	Involvement versus time	Managers' view that NTOs should be fully involved but agree that developing technologies is time critical as needs constantly change.
107	Different levels of understanding	Due to different levels of IT understanding, some NTOs expressed difficulties in understanding questions asked by developers and their implications
109	Implementation stages	Some NTOs expressed doubts that the Implementation Stages were appropriate to all countries, as some required different treatment for example more time, more training and more customisation.
112	Testing	Some NTOs expressed concern that not enough testing had been carried out previously leading to problems at installation.

**Table 3d - Theme 4: The issues of communication**

**Units of meaning relating to the theme**

<b>Open Code Number</b>	<b>Units of Meaning</b>	<b>Description</b>
14	Communications	Managers see that effective communication is important as part of the implementation and working relationship with the implementing agency.
16	User involvement	Importance of involving potential users during the design stage of the technology.
17	Progress and communications	Communicating development progress with the user is important.
20	Encourage involvement	Technology designers should actively encourage user involvement.
47	Listening to people	As part of building relationships between the developer and the user listening to potential user staff appears a key factor, hearing their views, aims, problems and so on is important to getting tourism technologies and their implementation right.

**Table 3e - Theme 5: The importance of qualified staffing in the user (developing) country National Tourism Organisation (NTO)**

**Units of meaning relating to the theme**

<b>Open Code Number</b>	<b>Units of Meaning</b>	<b>Description</b>
3	Available skills	The view that there is no in-house staff to work with the new technologies.
6	Benefits of full time internal technology staff	Where a manager feels that full-time technology staff are beneficial, for example in supporting the non technical with training and so on.
11	Challenges IT managers face	Some of the issues that managers have to deal with and could be frustrating for them.
12	Skilled staff positions in NTOs	The types of jobs in NTOs are traditionally non-IT.
13	Commitment to a career in the tourism industry	Some IT staff and managers see NTOs as a career and make a definite commitment to the job and industry.
23	Education and industry mismatch	Issues that NTOs have with education not providing appropriate tourism technology experience and role in today's tourism world.
24	Employee retention issues	The various frustrations of NTO and IT managers regarding training and retaining staff
25	Staff turnover issues	Managers' view that staff turnover is normal but the pool of suitable replacements in small countries is very limited.
32	Hard to find staff	Some managers are challenged to find good IT staff – and, at times, <i>any</i> staff.
41	International IT	Where there is a noticeable difference in the way international/returning nationals and so on behave in the workplace, plus where their IT attitude and experience is different from locals.
45	Job security	Where employees are looking for a secure job – not a part-time IT role.
51	Love of the job	Where IT managers have a real love for the job and would not want to move.
55	IT managers are key staff	Some senior NTO managers see that IT managers and staff are key.
63	IT manager wanting recognition	Some IT managers want recognition for the job that they do, they believe that they work hard and it is often not noticed.
75	Perception of the job	How IT people (managers and employees) perceive jobs in tourism.
81	Relationship to other industries	How some IT managers feel the tourism industry is different to other industries.
83	It's all about people	Senior NTO managers see that technology implementations are dependent on the quality of people both IT and other NTO users.
86	Setting expectations for NTO IT teams	Where senior NTO managers are very clear on the expectations that they have of their IT team and what they need to do to make it happen.
102	What staff think of IT managers	What non-IT user staff think about them is important to the acceptance of the technology.

**Table 3f - Theme 6: The importance of management and leadership in the developing country implementation agency i.e. NTO**

**Units of meaning relating to the theme**

<b>Open Code Number</b>	<b>Units of Meaning</b>	<b>Description</b>
4	Organisation not being responsive	Depending on the nature of the organisation makes a difference when the organisation recognises issues and responds.
5	Limitations in senior managers' understanding the importance of technology	Where senior managers see the importance of adopting technologies it is beneficial to achieving successful implementations.
7	Between departments movement of staff	When employees move between departments and ministries taking their experience of the technologies with them – there is no prescribed hand-over.
8	Building relationships	How NTO/IT managers try to manage the implementations by building relationships with the technologists.
10	Career opportunities	Where IT managers and staff see opportunities for using implementations as a means to move on to new jobs.
15	Confident IT senior managers	Senior managers who project great confidence in their IT knowledge and project the importance of IT use and ability.
31	Getting the right staff	Being clear about what managers will do to ensure that they get the right staff to work in their IT and research departments.
36	Tourism technology is not a career	The view (by some NTO managers) that tourism technology is not seen as a career – some of their IT staff use it to only get experience and then move on to other IT jobs out of tourism where salaries are higher.
37	How NTO managers view IT staff	How NTO managers see their IT staff and are often themselves frustrated at their lack of understanding of the work that their IT staff do.
38	Industry has grown	Where NTO managers are highlighting that the industry has grown and that this may affect the availability of suitable experienced IT staff.
39	Industry image	The image that the tourism industry projects to potential staff.
40	Influencing staff	Where a manager believes that by their own approach and actions they influence others.
44	Job recognition	Some IT managers and staff feel that the importance of their role is not appreciated and understood by senior managers and make allowances for this in terms of recognition.
46	Lifestyle	Some senior NTO managers' perception of the tourism industry as a 24/7/365 business and is a lifestyle you adopt.

49	Looking after people	Some senior managers see that the all staff (including IT people) working for them are very important and that they need looking after.
53	Management bonding	In some NTOs managers often get together as support for each other.
54	Management style changes	When a manager has had to adjust their management style due to being responsible for different roles (IT) or comes from a different country and so on and then how that affects their employees.
56	IT persons are transient	IT managers and staff are often regarded as transient within and external to the industry.
59	NTO managers' perception of the IT workforce	How NTO managers see the workforce that they have to manage.
60	NTO managers' personal characteristics	What all managers see as the positive characteristics of other managers – what makes them successful?
62	NTO manager vs IT Manager	Where an NTO manager has a different view on how things should be done compared to the IT manager.
65	Managing IT staff	How senior managers try to manage IT staff in various ways.
67	Managing the training needs of IT staff.	It appears that this is an important factor for IT managers, as senior managers do not understand the relevance and importance of training to IT staff.
70	Motivating staff	How senior NTO managers motivate all staff, in particular IT staff.
71	Senior government views impact on IT	The published views of ministers, prime ministers and high government officials often impact on how IT managers and staff see the importance (or lack of) and relevance of their job.
72	Passion for the industry	IT people who are really excited about working in the tourism industry and are well dealt with by their seniors are passionate about the job.
73	People need managing	The view that people need managing, people have to know what the rules are.
74	Perception of the IT workforce	How NTO managers personally view their IT workforce. For example how important IT is to them.
82	Retention issues	Some senior managers see retention possibilities but may not be able to do anything about it.
85	Senior managers' view on IT managers	What senior managers think IT managers should be doing and how they should be acting.
87	Some IT managers achieve more than others	Senior managers had views on why some IT managers achieve better implementation results than others.
88	IT staff attitude	When managers notice a positive or negative attitude from IT staff.
90	Staff working the rules	When staff use the systems as an excuse to not work, for example sick days, need for frequent breaks, not paying attention at training.

95	The reasons for having IT managers	Why some NTO managers believe they need IT managers.
99	Understanding individual staff	Some NTO managers are trying to understand individual staff and their work so that they can get the best out of them – IT is sometimes a challenge in this respect.
103	NTOs don't know what they want	Some IT managers think that their senior NTO managers don't know what they want from technology.



**Table 3g - Theme 7 – Training is key to the developing country**

**Units of meaning relating to the theme**

<b>Open Code Number</b>	<b>Units of Meaning</b>	<b>Description</b>
26	NTO employees' view on external resources	NTO employees are aware that the use of using external IT resources means the lack of importance for them to learn the technology.
33	Lack of vision	Some managers are challenged to understand where tourism and technology are going and to give the implementation of new technologies sufficient priority.
34	Lack of understanding the role of IT	Some managers are challenged to understand the full role of IT in tourism and therefore limit its use and priorities and carry on in the 'same old ways'.
42	Commitment versus involvement	There appears to be a real need for a full NTO commitment (not just involvement) to encourage participation during design, development and testing of new technologies between developer and beneficiary.
52	Skill positions	Some NTO managers believe that managers and staff responsible for IT are of low importance and is an easy job for people to start in.
57	IT managers being supported	Situations where the NTO supports IT managers in different ways that enables manager to get on with their job.
64	Mistrust of IT managers	Senior NTO managers do not always 'trust' the views of their IT staff through lack of understanding and believe that their IT staff are trying to persuade them to spend money.
66	Managing costs	Senior NTO managers see the need to manage costs and are not always sure that IT staff appreciates this.
89	More training	Views on the importance of more and more training being the key to successful implementation.
96	Transient IT staff	NTO managers believe IT staff are transient and come and go and have no loyalty.

**Table 4 – Recommended methodology – study findings approach**

Traditional Approach	Study Findings Approach
<p><b>Stage 1 Initiation</b></p> <ul style="list-style-type: none"> <li>• Establish need</li> <li>• Provide solution</li> <li>• Accept solution</li> </ul>	<p><b>Initiate</b></p> <ul style="list-style-type: none"> <li>• Fact finding and introduction</li> </ul> <p><b>Solution</b></p> <ul style="list-style-type: none"> <li>• Design, development and testing - pilot</li> </ul> <p><b>Scoping</b></p> <ul style="list-style-type: none"> <li>• Capacity assessment</li> <li>• HR and training needs assessment</li> <li>• Demo system</li> <li>• Agree customisation</li> </ul>
<p><b>Stage 2 Implementation</b></p> <ul style="list-style-type: none"> <li>• Customise and modify</li> <li>• Install</li> <li>• Train</li> </ul>	<p><b>Customisation</b></p> <ul style="list-style-type: none"> <li>• Pre-installation customisation</li> </ul> <p><b>Installation</b></p> <ul style="list-style-type: none"> <li>• Installation and training</li> </ul> <p><b>Stabilisation</b></p> <ul style="list-style-type: none"> <li>• System stabilisation and further training</li> </ul> <p><b>Ownership and Sustainability</b></p> <ul style="list-style-type: none"> <li>• Final training</li> <li>• Hand-over and on-going maintenance</li> <li>• Form user group</li> </ul>

## **APPENDIX 1 Implementation Guidelines for Publication to Key Stakeholders**

### **IDENTIFYING BEST PRACTICE GUIDELINES IN IMPLEMENTING TOURISM TECHNOLOGIES IN DEVELOPING COUNTRIES**

#### **Abstract**

This report documents guidelines to best practices specific to the implementation of tourism technologies in developing countries in the Caribbean. The paper is the culmination of research efforts (between 2005 and 2008) performed by an industry practitioner in his role as Project Manager of a tourism technology project in the Caribbean, and as part of his academic pursuits in respect of a Doctorate in Professional Studies. The research information was gathered through an extensive interview process that involved seven Caribbean developing countries and some sixty tourism and tourism technology professionals from various national tourism organisations. These tourism professionals were in various levels of management (ministers and directors of tourism, research managers and technology managers and their staff) and were also part of tourism technology projects implemented during the ten year period (1999–2008).

The purpose of this paper is to communicate the findings from the research in order to present guidelines and to assist others in planning and implementing similar projects in the future, in an effort to contribute to the progressive evolution of technology implementations and project management.

#### **Background to this paper**

This paper is a synopsis and extract from a Project Report submitted in partial fulfilment of the requirement of Doctor of Professional Studies as well as a reference document to the full EU-funded CRSTD P MIS Project Reports (Phase 1 – Development 2007, and Phase 2 – Implementation 2008). The locations for the research were seven Caribbean developing countries (Antigua, Dominica, Grenada, St Lucia, St Kitts and Nevis, St Vincent and the Grenadines, and Trinidad and Tobago). The CRSTD P was funded by the EU under European Development Fund (EDF8), managed by CARIFORUM, and an implementing agency for this programme was the CTO.

**Keywords:** Tourism IT, developing countries, aid-funded projects, Caribbean, phenomenological investigation, project management, information technology

## **Introduction**

This research looked at the implementation of tourism information technologies (IT) in seven developing countries in the Caribbean. The success of implementing IT solutions within aid-funded tourism development projects remains an issue for developing countries. The preliminary research undertaken has shown that there is limited literature relating to implementing tourism IT solutions within aid-funded tourism development projects in developing countries.

The research question is a real issue that prevents the successful achievement of project outcomes. The literature on this issue, specifically as it relates to tourism and Information and Communications Technologies (ICT) is sparse. Where it does exist, it mainly deals with the procedures and logistics of the project management, not the human interaction that is responsible for its delivery. This is the focus of this Doctorate in Professional Studies project and, because of the nature of the problem, the philosophical approach taken is one based on phenomenological investigation.

Tourism is now one of the largest world industries (World Tourism Organisation 2006). For many developing countries, tourism is the only source of foreign exchange and jobs, and its contribution is vital to their national economies. Many of these countries do not have the financial or technical expertise to keep pace with these advances in the use of technology in the tourism industry, and are struggling to keep up. Particularly at risk are the small island states in the more remote areas of the world; a case in point is the Caribbean.

To these developing tourism destinations, the role of technology is becoming more important and influential and is sometimes included as part of a tourism development 'aid package' by many donors including the EU, World Bank and UNWTO. The outcome of such aid projects has often dictated the pace and success of the development of individual countries' tourism industries. Initial research shows that attempts to develop and implement IT into the developing countries of the Caribbean as part of a regional aid-funded tourism development project have not been a total success.

The reasons for failure can vary from country to country but there is a common thread, as this research has shown, running through the human issues. This extends from the senior

management's understanding of the importance of technology to the development and management of a national tourism destination and allocating sufficient resources to its development and use of technology, to the recruitment and empowerment of management and staff to execute the implementation of the IT strategies.

The increasingly extensive use in global tourism of dynamic IT and an experienced labour force skilled in creative technology has seen the introduction of new technologies and with it operational systems and management requirements. This has resulted in the need for developing countries to cope with issues of changing skills and organisational requirements some cannot accomplish. This has been seen to result in either a need to change and acclimatise new staff and skills or the failure of the IT implementation from a technology viewpoint.

Respondents find that managing this dynamic change, even with the benefit of organisational systems and new staff, is a challenging task. From the research fieldwork it was found that some directors of tourism and senior managers feel pressured to choose between two managerial dimensions – rationalism and humanism. Collins and Porras (1994) propose that this is a trap for managers in that they may succumb to the “tyranny of the ‘or’” – managers can be either rationalistic “or” humanistic. However, I found that experienced senior managers harness what Collins and Porras call the “*genius of the ‘and’*”, that is, they are not trapped by this polarity and as such have married mastery and utilisation of systems “and” building a new organisation, retaining and training their key experienced staff to work with new technologies, or recruiting new skills as the situation demands.

The problem for the tourism industry is that, since experienced directors of tourism and senior managers are few in number and difficult to recruit, losing them risks damaging the organisational knowledge base and organisational social frameworks. Ultimately, such damage flows through to influencing the way in which new technologies are assimilated into the organisation and how resources, both financial and human, are managed or mismanaged.

The key practical message for directors of tourism and senior managers involved in today's rapidly changing and technology-driven tourism marketplace is that it is essential for them to be more aware of the need to develop an organisation and skill base with the resources and ability to assimilate and use the new technology tools. Failure to recognise and practically support this vision will impact negatively on the achievement of implementing tourism

technologies and achieving business objectives, and for the organisation to compete successfully in the global tourism marketplace.

### **How the study unfolded**

An analysis of the factors and influences that shaped the previous tourism technology MIS initiatives (1999–2002) and current tourism MIS project lifecycle and outcomes (2005–2008) in the seven research countries was undertaken in order to determine the causes of failure. This involved identifying and examining problems in previous projects and also considers the methodologies developed and used to overcome these identified shortcomings in the current MIS IT project (2005–2008).

The outcomes of this research are to identify and enhance the understanding of the key determinants that impact and influence IT projects in order to minimise risk of failure in developing and implementing modern tourism IT in developing countries. The outcomes are aimed at benefiting specifically those involved in developing and implementing tourism IT into developing countries (national tourism authorities, aid donors, consultants and private and public sector tourism operators and software development companies) However, the outcomes can also assist a similar group of beneficiaries involved in implementing IT into other private and public sectors in developing countries, that is public service, finance, industry and so on. More immediately, they benefit the implementation of the current EU-funded (EDF 8) CRSTDP MIS Project (2005–2008).

In particular the research focussed on analysing the Caribbean EU-funded MIS implementation (1999/2001) in the seven research countries and the related activities of the period that followed (2001/2005). Also the research relates and checks these issues with the current EU-funded Caribbean MIS Project.

The research set out to use qualitative research methodologies, principally using a phenomenology approach. Explicit research questions are not commonly found in phenomenology research, and therefore I have referred to this research as a research theme. The research, however, needs to start from some point of reference, which is often an open question related to the research theme, initially making it more conceptual than specific. Preparatory and ongoing research and discussions with directors of tourism and CTO suggested that there is evidence that failure occurred with the last 1999/2001 implementation of a major MIS tourism technology in the NTO of each research country.

Because of the nature of the problem, the philosophical approach taken was based on phenomenological investigation. In this sense I investigated using in-depth critical participants in the project implementation process in seven countries. I also applied the multi-case method to seek commonalities and difference between the research groups. Accepting that there is no specific research question, this research does have a sound research base and sets out to find out what occurred and the reasons why.

Based on this research I identified the primary reasons and causes for the failures and developed an approach to mitigate their reoccurrence. In developing an understanding of the processes that impact and shape outcomes with respect to implementing tourism technologies, I defined the key elements that are likely to contribute to success in the future.

### **Data gathering methods**

The research focused on the period from 1999–2008. This period comprises the formative years for two donor-funded tourism technology (MIS) projects in the Caribbean (1999–2001 and 2005–2008), both located in the seven research countries. It was also an active period in the evolution and growth of global travel and tourism industries, with changes in tourism trading structures and practices brought about by the introduction of new technologies. The testing period for new methodologies developed as an output of this research will be part of the current tourism technology project implementation 2006–2008.

Key research targets are the National Tourist Offices and other national agencies and private sector trade associations of the research countries that were beneficiaries of previous tourism (MIS) technology initiatives funded by the EU, and where the Caribbean Tourism Organisation (CTO) was the executing agency. The research will identify shortcomings and causes for failures and propose new theory.

The research was divided into a number of interrelated phases; interviews were individual, in-depth and focus groups and were designed to collect relatively large groups of information for analysis (Veal 1997). Workplace observation was also used to gather information. Analysis of the qualitative data relating to in-depth interviews and document research was used to tease out themes, patterns and categories. However, a more conventional approach was employed to analyse structured interviews and any questionnaires (Easterby-Smith, Thorpe and Lowe 2002).

Secondary research involved ongoing gathering of information during the researcher's work as the Project Manager and ongoing interaction with participants, donors, beneficiaries and consultants.

The research group of countries were seven Eastern Caribbean countries: Dominica, St Lucia, Grenada, Trinidad and Tobago, Antigua, St Kitts and Nevis and St Vincent and the Grenadines. Each of these seven countries has the following similar characteristics:

- All have been beneficiaries of the 1999/2001 and 2005/2008 EU-funded tourism technology initiatives
- All are classified as developing countries
- Tourism will be either a major or the largest foreign exchange earner
- All are users of some technology initiatives
- All have published tourism development strategies involving technology
- All are dependent on major metropolitan source markets for their tourism
- All are or have been recipients of overseas aid to introduce new technologies.

The planning, the identification of the research population, methods and data collection techniques to be used, and the research itself, were undertaken during the period January 2005–June 2008.

### **Synopsis of the research findings**

A wide spectrum of perspectives was found regarding the phenomenon of the reasons for failure of previous implementations of aid-funded tourism technologies (IT) in the seven developing countries in the Caribbean.

Among others, the developer's and implementing agency's not totally understanding the background of the developing country and the potential user environment was an significant factor. Associated with this was the importance of understanding the needs and limitations at the national level in the developing countries. The interviewees stressed the importance of the developer/implementation agency understanding the individual requirements of each country, and the lack of this on previous occasions on many occasions.

Lack of communication throughout the project lifecycle was perceived as an important factor contributing to failure. Also, a perception existed that lack of qualified staffing in the



developing country's NTO was a real factor for failure, and it was felt the deficiencies here were important.

The constraints experienced regarding proper management and leadership in some developing countries during implementation was another important perspective. Associated with this was the importance of commitment by some NTOs and the capacity to devote managerial time and resources. Also, difficulty was experienced in finding suitable experiential managers who understood and were experienced in using modern technologies, so some staff had difficulties with proper management of the new tourism technologies.

The composite summary above only reflects the themes that are common to most or all of the interviews undertaken. However, individual variations or unique themes (Hycner 1999) are as important as commonalities with regard to the phenomenon researched.

The above research results show that the influences of the development and implementing agencies play a key role and influence the extent of implementation and its success. They need to understand the user environment and its capacity to absorb new technologies, the relationships of organisation, staff and management capabilities, and perceptions of the value and priority of the technology within the organisation. Together, they influence the success of the implementation and sometimes dictate the direction of the evolutionary process of the IT implementation itself.

This study found new stages that should be added to the initiation and implementation process in developing countries, as well as confirming the stages outlined earlier in this chapter, namely Stage 1, Initiation (establish need, provide solution, accept solution) and Stage 2, Implementation (customise/modify, install, train).

Based on the research undertaken, the following is an outline of the suggested project lifecycle for developing and implementing tourism technologies in developing countries, including several new stages and several new activities.

### **IT Implementation as an evolutionary process - best practice guidelines**

Set out below is an integrated description of the evolutionary process that characterises IT implementation in developing countries. This approach expands and builds upon the concept of the stages of technology implementation used in developed countries. Besides confirming

the importance of the traditional developed country approach, that is, two stages (initiation and implementation) that include establish need, provide solution, accept solution customise/modify, install and train, this study found new stages and expanded activities and focus that should be added to this process, as follows:

### ***Stage 1 - Initiate***

Although the initial reason for the adoption of the IT varies from NTO to NTO, generally the director of each participating NTO made the decision to initiate and adopt the proposed IT. The interviews showed that there was no definite plan and strategy to promote the use of IT and in most cases there was only a vague understanding of the intended technology. Thus, the main reason for having the proposed technology was an overriding need for information on which to plan and monitor tourism marketing and promotional activity and that it was being proposed by CTO and paid for by the EU.

However, based on the research undertaken there needed to be a more focussed fact-finding investigation by the implementing agencies to identify not only the business requirement for the technology but a full understanding of the user environment, identifying limitations, constraints and barriers to success including staffing, financial and environmental issues. Also, it is necessary to assess and define the absorption capacities of management and leadership to take on board the proposed technology. This should take the form of a feasibility study and should assess the likelihood of success and finally recommend a positive or negative decision on going forward. Just because the EU donor provides the technology at no cost, it is no reason to go ahead if the absorption capacity of the country is not conducive to success.

### ***Stage 2 - Solution***

At this stage the NTOs have recognised that the proposed technology provides an important tool for gathering and dissemination information. However, their understanding of what is intended is not yet defined. At this stage it is important to initiate a communications channel with the potential users to keep them involved in all the stages of the design and development, including sight of a solution in the form of a business specification for comment, communicating progress and involving them in user system testing, all designed to encourage feedback and buy-in to the proposed technology solution.

### ***Stage 3 – Scoping***

The purpose of the scoping stage is to review where the country stands with respect to the implementation requirements for the ‘solution’. This is to include hardware and software, training needs, software customisation, operations and logistics, timescales and costs. This is also the opportunity to present the proposed solution to the users and discuss fully the implications and operating requirements and the options open for customisation. This is the first and most important opportunity for achieving user buy-in and ownership.

This scoping and implementation planning is related to the current IT project and covered the following areas:

1. Establish and view current hardware, software and network configurations includes physical visit to intended operational locations
2. Establish and view other related tourism systems currently in use - that is tourism statistics, immigration, central statistics and so on
3. Discuss and agree how the new system will be operationally organised within country:
  - i. Data input locations
  - ii. Data processing
  - iii. Reporting access and methods - dissemination - hard copy, electronic and/or user access via Internet
4. Establish current and future requirements to cater for any changes in:
  - i. Organisation
  - ii. Data collection
  - iii. Use of additional technologies – i.e. scanning
5. Additional user requirement with the MIS in addition to the NTOs:
  - i. Ministry of tourism
  - ii. Central statistics office
  - iii. Customs/immigration
  - iv. Private sector
6. Identify training needs – to include, but not limited to:
  - i. Data input
  - ii. Systems management/administration
  - iii. Reporting users
7. Discuss and agree essential customisation requirements.
8. Discuss post implementation maintenance and support
9. Discuss system implementation plan.

The objective of this stage is for everyone involved (including the ‘client’) fully to understand the proposed operating environment so that the implementation team can make recommendations to the country to prepare themselves for installation and for the development team to customise the system to ensure a best fit to the country’s needs. This stage is so important that discussions and agreements should be documented for future use and to establish a clear agreed plan for implementation.

#### ***Stage 4 – Customisation***

Evolving from Stage 3 is the technical customisation of the software to meet the specific needs of the user as specified and agreed at Stage 3 – Scoping. Again, it is important to keep the users involved in all the stages of the customisation including sight of the changes made and in the testing of these changes and modifications. This process should seek feedback and buy-in to the final technology solution.

#### ***Stage 5 – Installation***

The physical installation of the system into the environment is the real test and should be a planned approach based on the scoping visit and the implementation plan that has been agreed with the country. An installation should typically include the following, however details can change depending on the type/purpose/operation of the system. Below are the stages used in the installation of the MIS developed as part of this EU-funded project, but the principle can be adapted to fit other applications.

1. Meet with key stakeholders and participants to discuss the intended installation programme
2. Install and configure the hardware and install the software
3. Installation testing
4. Testing and monitoring data input and management process
5. Output testing (reporting, analysis and so on)
6. Training (to typically to include)
  - i. Awareness training – managers, directors and end users
  - ii. Technical training for system administration and management
  - iii. Database/content management
  - iv. Training for data collection/entry operation
  - v. Report/output training for all users

- vi. Training for fault reporting and management
7. Completion and hand-over meeting with key stakeholders and participants and discuss ongoing support and upgrades.

### ***Stage 6 – Stabilisation***

Taking on new technologies comes at a price. While NTOs were experiencing the advantages of a previous new technology they also quickly started struggling with its side effects. The research showed that in past implementations some NTOs began experiencing negative effects related to management and control issues such as pressure on financial and human resources. At the same, any issues with the technology including bugs, faults and so on identified a lack of training or lack of absorption capacity to manage the technology. Also at the same time a feeling of abandonment began to surface as users felt that they had been left to their own devices without adequate support.

While the technology within the NTO evolved, the organisational aspects of the NTO did not. Thus, the lack of development in organisational capacity pressured directors to learn more about the technology and the staff they needed to handle the growing amount of technical work. Indeed, some directors indicated that they spent all of their time and finances in staff training and replacement, and began to question their investment and the value of the technology. This research pointed to a need for a post-installation stabilisation period when the NTO could be monitored, supported and nursed until they had become proficient in using the technology and that any problems, bugs, handling issues could be solved.

### ***Stage 7 – Ownership***

IT technology does more than change the way that tourism research and management information is collected and disseminated. The real impact of IT implementation is to facilitate the new communications and create opportunities for collaboration and the development of new partnerships. Some NTO directors now began to realise that the value of IT goes beyond information provision and communication; and began to think about how to use IT in order to do things differently.

This change in perspective comes about through the NTO taking ownership for the technology and that comes from two important factors:

- 1) conviction that they can totally manage the technology, and

- 2) confidence that the information produced is accurate and worthy of sharing and acting on.

This research has shown that, where ownership was achieved in previous installations, NTOs had more use and fewer problems than NTOs who did not take full ownership.

This research has shown that there were periods when some NTOs encountered unexpected events and incidents that slowed the implementation process down, at best, and in one case caused the NTO to abandon the technology. Reviewing the cases, it appeared that those issues often resulted from one of the following situations: unreliability of the system; slow adoption rate by staff; lack of government support; and personnel turnover. These factors significantly affected the implementation.

This research pointed to a need for a stage in the Implementation process designed specifically to build confidence and conviction to take ownership

## **Conclusion**

An important goal of this study was to develop a framework based on shortcomings identified in the previous implementation of tourism technologies in developing countries and to aid the implementation of the 2005/2008 EU-funded (EDF 8) CRSTDP MIS project.

The findings of the seven cases of Caribbean NTOs included in this study identify the importance of accepting that there is a dynamic interaction between financial resources, the human resources and the capacity of the NTO and how these affect IT implementations in tourism organisations. Indeed, the results of this study identify that when NTOs adopt new technologies, both the organisation and the technology are transformed. That is, IT provides new ways to develop and disseminate information and facilitates information related activities and, as a result strengthens the NTOs. Increased capabilities, in turn, help NTOs adapt to new technology to better fit their objectives and roles.

However, the results of the case studies also show that such positive implementation effects are frequently not realised due to lack of resources and understanding of the technology itself. The data indicates that the need to implement IT often emerges from external factors rather than internal visions of how IT can help the NTO succeed. If IT is implemented without the necessary organisational capabilities and capacity in place, the implementation can fail and as a result it can actually have a detrimental effect on the NTO and its will to use technology in the future.

Although the case studies indicated that such outcomes are typically overcome by NTOs, they could very easily lead to serious disruption or stagnation in the future of IT implementations. Effective leadership, the need to adopt the technology, a clear focus on the NTOs' role, present and future, and the understanding of how the technology to be implemented fits into this plus a clear focus on the NTOs' future role and an understanding of how best practice NTOs work in the developed world seem to be crucial in avoiding such situations.

The findings, thus, confirm the importance of the nine stages of IT implementation, namely:

1. Fact-finding and introduction
2. Design, development and testing
3. Scoping – capacity assessment – demonstration of system – agree customisation
4. Pre-installation customisation
5. Installation and training
6. Stabilisation and further training
7. Final group training in workshop environment
8. Hand-over and on-going maintenance
9. Form user group.

The above approach was used in the development and implementation of the EU-funded CRSTDP MIS Project (2005/2008) and is detailed as such in the EU Projects Reports (Phase 1 – Development, and Phase 2 – Implementation).

This study had several limitations.

First, it interviewed the current holders of the positions in NTOs, some of whom were not in post for the complete project lifecycle of previous implementations. Hence in some cases the experience of a particular individual or NTO director was based upon an incomplete perspective. Second, historical case studies might not accurately reflect events because it is difficult to determine cause and effect from recalled events. Interviewees might have forgotten important events or consider them unimportant. Despite some limitations, the results of this project offer both methodological and practical contributions to developing and implementing tourism technologies into developing countries.

The development and implementation framework proposed here (Table 4) enables a project manager or aid donor to examine both subjective and objective aspects of IT implementation

in the context of the proposed developing country beneficiary and allocates sufficient funds, skills and project timeframe to complete the project.

The proposed project framework sets out the importance of looking at the needs of each individual proposed beneficiary organisation in terms of absorption capacity (management, staff, financial and technology levels) before a decision is made on the implementation strategy.

This study also draws attention to the evolutionary nature of IT implementations and the significance of past implementation results for planning future IT implementations. The practical implications that can be derived from this project centre around five important factors:

- 1) understanding the user environment in terms of absorption capacity
- 2) understanding the human resource development requirements in terms of all users both operational and management
- 3) creating a project lifecycle communications medium to encourage and development partnerships
- 4) developing an understanding that IT is an evolutionary ongoing process which requires continuous investment and attention, rather than a 'one hit' solution, and
- 5) facilitating achieving ownership by the beneficiary.

This study shows that the willingness to support HR development in terms of skills and management is key to the success of all IT implementations. Problems and obstacles are common in implementing new technologies, and directors and managers should be warned to expect setbacks and be taught how to overcome them, adopting a style of leadership that focuses on an increase in effort and commitment and recognises a need for additional training. By the implementation team creating this 'can do' culture within an NTO during the project lifecycle would greatly enhance the NTO's ability to respond to changes, whether these are new technological developments or changes in culture and management style.

This study showed that a more proactive approach to change was evident now than appeared to be evident with previous implementations. Fully benefiting from the positive effects from IT implementation becomes even more important as competition grows between destinations for tourist revenue. Two of the most important issues that Caribbean NTOs face as IT and the global marketplace evolve relate to their ability to collaborate and to change. It is clear that IT not only enables global reach in terms of marketing tourism products, but also facilitates the



research and management of tourism information, key to placing the right tourism product, in the right place, at the right price to meet market needs.

However, the reality is that IT on its own does not automatically level the playing field. The real challenge NTOs face is to take on board new technologies and adapt their organisation to have the capabilities to adapt, customise, and to modify the tourism technologies to suit their own requirements. The NTOs must learn to change in order to maximise the benefit of using IT and transform the information produced into knowledge and action.

Thus, it is vital that the development and implementation agency of new tourism technologies understands that, as well as producing a technical solution, it is also their role to enhance the NTOs' capability to change, thereby enabling them to successfully incorporate new technologies into the fabric of their organisations. Thus, successful change for NTOs is not only supporting current activities with IT, but also using IT to strengthen and develop new activities and develop new competencies.

From the study undertaken it is evident that the successful implementation of new tourism technologies and getting it right first time are very important factors in growing a tourism industry in a developing country.

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## APPENDIX 2

### CTOMIST2006 – SYSTEM ACCEPTANCE REPORT MIST INSTALLATION/STABILISATION PROGRAMME

Date:

Country :

SERVER, DATABASE and DATA ENTRY			
	LOCATION #1 (HEADQUARTERS)	LOCATION #2 (PSIA)	LOCATION #3 (CARR)
Server Name	GBT_N03	GBT_W59\sqlexpress	SOFTWARE WILL BE INSTALLED BY SH
Database Name(s)	MIST2006_GDA. (central data) MIST2006_SEA	MIST2006_PSIA	MIST2006_CAR
The following activities are to be completed by the CTO installation team and certified as fully functioning			
Update the MIST 2006 application	COMPLETED - Installed on 1 workstation	COMPLETED	SOFTWARE WILL BE INSTALLED BY SH
Update Database Structure including tables, views and control data.	COMPLETED	COMPLETED	
Inspect Data Entry Screen layout	COMPLETED	COMPLETED	
Inspect Data Entry installation Setup and Administration	COMPLETED	COMPLETED	
Test Data Entry	COMPLETED – a batch containing 6 cards for December 2007 entered	COMPLETED – a batch containing 2 cards for April entered	
Test Export and Import Function	March 2008 from PSIA imported	Data for March 2008 was exported	
<b>Other Comments:</b> (Persons Trained and so on)	Carr. October data was converted from the old MIST database format to the new MIST2006 database format.		

Activities and Tests above agreed as completed and confirmed

Name and Signature of CTO Installation team

.....

Date.....

Name and Signature of XXXXXX Board of Tourism.....

Date.....

**CTOMIST 2006 – SYSTEM ACCEPTANCE REPORT  
MIST INSTALLATION/ STABILISATION PROGRAMME**

**Date:**

**Country :**

<b>REPORTING (AT HEADQUARTERS ONLY)</b>	
Web Address	http://gbt_n03/reports
Review the installed Standard Reports	No changes necessary
Validate Standard Reports	Reports generated
Install/Update the model for Report Builder	COMPLETED – new model was installed
Validate Reports generated using Report Builder	Reports generated
Install/Update the 'CUBE'	COMPLETED
Validate Reports generated using the Cube	Reports generated
Install the CRM module	Demo version of ACT, with a free thirty-day trial period was installed. The licences for two proprietary software products (ACT and ACT CRM Add-on) have to be purchased in order to use the customised CRM module. CRM module will be demonstrated at CTO Workshop in May 2008.
<b>Other Comments:</b> (Persons Trained and so on)	SH was shown how to update the CUBE.  Database and reports will need to be customised to allow for dis-aggregation of Nationals Resident Abroad and Student categories. Responsibility /cost to be determined.

Activities and Tests above agreed as completed and confirmed

Name and Signature of CTO Installation team.

Date.....

Name and Signature of XXXXXX Board of Tourism.....

Date.....

### APPENDIX 3

#### CTOMIST 2006 – SYSTEM ACCEPTANCE REPORT MIST INSTALLATION/ STABILISATION PROGRAMME

**Schedule of Countries who have accepted the MIS system and have signed the System Acceptance Report. Original Copies of the Document presented to University Assessment Board and evidenced in the Formal EU Report - Appendix 4 – Installation Mission Reports.**

<b>CASE STUDY COUNTRY</b>	<b>SCHEDULE OF ACCEPTED ACTIVITIES</b>	<b>MIS ACCEPTED AND SIGNED BY</b>
Antigua	Single island destination – System installed and tested at Ministry of Tourism HQ and one airport. Trained 4 data entry staff, IT staff and Research Manager. Trained in Standard Data Collection, System Management and Reporting. Awareness training to other NTO staff and managers	Director – April 2008
Dominica	Single island destination – System installed and tested at National Tourism Office and National Statistics Office plus two airports and NTO Information Office - Trained 5 data entry staff, NTO Research Manager and IT staff and National Statistics Office IT staff. Trained in Standard Data Collection, System Management and Reporting. Awareness training to other NTO staff and managers	Research Manager – May 2008
Grenada	Multi island destination (2 sites) – System installed and tested at NTO HQ and Airport. Trained 4 data entry staff, NTO Research Manager and 2 IT staff in Customised Data Collection, System Management and Reporting. Awareness training to other NTO staff and managers	IT Manager – April 2008
St Lucia	Single island destination – System installed and tested at National Tourism Office plus two airports - Trained 5 data entry staff, NTO Research Manager and staff, and IT staff. Trained in Standard Data Collection, System Management and Reporting. Awareness training to other NTO staff and managers	Director – April 2008
St Vincent and the Grenadines	Multi island/airport/seaport destination – System installed and tested at Ministry of Tourism Research Office. PS Office and DOT office – Trained 4 data entry staff and Research Officer and supervisor and temp IT officer. Trained in Standard Data Collection, System Management and Reporting.	Research Manager – May 2008

Trinidad and Tobago	Two-island destination (2 sites) – System installed and tested at two Central Statistics Offices. Trained 8 data entry staff at two locations and IT staff and Research Manager trained in Customised Data Collection and Transfer, System Management and Reporting.	Director of Statistics – October 2008
St Kitts and Nevis	Two island destination (2 sites) Installation in Progress	In Progress – December 2008
<b>NON-CASE STUDY MIS COUNTRIES</b>		
Barbados	Single island destination – System installed and tested at National Tourism Office (to be also installed at National Statistics Office) – Customised data conversion from Immigration System. Trained 3 research staff and Manager and IT staff. Trained in Customised Data Importation, System Management and Customised Reporting.	Final Testing In Progress December 2008
Belize	Single country destination – System Installed and tested at Tourist Board. Trained 4 data entry staff, IT staff and research manager in Standard Data Collection, System Management and Reporting. Awareness training to other NTO staff and managers	Research and Product Development Director May 2008
Guyana	Single country destination – System installed and tested at National Tourism Office and National Statistics Office. Trained 3 data entry staff, NTO Research Manager and IT staff and National Statistics Office IT staff. Trained in Standard Data Collection, System Management and Reporting. Awareness training to other NTO staff and managers	Research Manager – April 2008
Jamaica	Single Island destination – System installed and tested at National Tourism Office and also at airport Data Entry Centre. Installed scanning at 2 airports with customised data entry and scanning. Trained 12 data entry staff and supervisors, research staff and Manager and IT staff. Trained in Customised Data Importation, System Management and Customised Reporting.	IT Manager – May 2008
Suriname	Single country destination – System installed and tested at National Tourism Office - Trained 3 data entry staff, NTO Research manager and IT staff. Trained in Standard Data Collection, System Management and Reporting. Awareness training to other NTO staff and managers	Director – May 2008

## APPENDIX 4

### EVIDENCE OF SUCCESS – CTO LETTER DATED 20 NOVEMBER 2008

*One Financial Place, Collymore Rock, St. Michael, BB11115, Barbados, W.I. Tel: (246) 427-5242/Fax: (246) 429-3065  
E-mail: ctobar@caribsurf.com*



Paul Ridoutt,  
16 Foursquare,  
Rockley Golf Club,  
Barbados

20 November 2008

Dear Paul

I would like to express our thanks for your work over the past 4 years and specifically creating your new methodology and approach for developing and implementing our Management Information System (MIST2006).

The success of the IT CTO/MIS component of the EU funded Caribbean Regional Sustainable Tourism Development Programme (CRSTDP) was largely due to the project adopting your recommended methodology in developing and implementing this important technology into 12 of our 32 member countries

Having now received your recommendations report and "Methodology Guidelines" documents we will continue to use your approach in implementing systems into the remaining members of our organisation and into other organisations as well. I am sure that CTO and its members and tourism partners and others who use this methodology in the future will also find it an essential tool and conducive to achieving a sustainable and successful system implementation.

Once again thank you for your professional work during your time working with us on this important project.

Best wishes for the future  
Kind regards

Sean Smith  
CTO MIST Team Leader

RESEARCH & DEVELOPMENT \* TRAINING \* MARKETING \* PLANNING \* CONSULTANCY SERVICES

*Caribbean Development Through Quality Tourism*

**CARIBBEAN**

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